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The DHET's approach to establishing a credible mechanism for skills planning in South Africa

Research Report

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Master of Education

Declaration

I declare that this Research Report is my own unaided work. It is being submitted for the Degree of Master of Education at the University of Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination in any other university.

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Naomi Sumangala Alphonsus

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Date

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Abstract

Skills in South Africa are seen as essential for building the economy. This is why the Department of Higher Education and Training (DHET) sees developing a skills planning mechanism as important in the current context. The 2013 White Paper on the Post-School Education and Training System says that the function of skills planning should be centralized in DHET, with support from universities and/or other national research institutes. More specifically, DHET (2013) suggests that skills planning is required in the short, medium, and long term in order to shape the education system accordingly to meet the demand for skills. The literature on skills planning is full of debates on the kinds of skills planning that are possible in different contexts of economic and education systems. There are different notions of what skills planning is, how possible it is to predict skills demand, and how this should be done. There are also differences in ways in which economies are managed which have direct implications for skills planning. However imperfect, skills planning is needed as it provides an indication of what skills are needed to enable development in the country and provide guidance for the state to support initiatives. This study investigates the emerging skills planning mechanism in South Africa, the views of different stakeholders in this process and the projects that form part of skills planning. It argues that in the South African environment, skills planning has focused on the elements potentially needed to plan skills, however it is unclear how these elements will work together in a skills planning mechanism.

Acronyms

ADRS	Applied Development Research Solutions
CSPIU	Central Skills Planning Unit, DHET
DHET	Department of Higher Education and Training
DPRU	Development Policy Research Unit, University of Cape Town
EU	European Union
GEAR	Growth and Employment and Redistribution
HRDC	Human Resource Development Council
HSRC	Human Sciences Research Council
LMIP	Labour Market Intelligence Partnership
NGP	New Growth Plan
OFO	Organizing Framework for Occupations
REAL	Centre for Researching Education and Labour
SIPs	Strategic Integrated Projects
SETAs	Skills Education and Training Authorities
StatsSA	Statistics SA
the dti	Department of Trade and Industry
VET	Vocational Education Training

Chapter One: Introduction

1.1 Introduction and Overview of Research Report

This research report examines the processes in motion to develop a skills planning mechanism in the Department of Higher Education and Training (DHET) in South Africa. DHET has commissioned various projects that are intended to contribute to the formation of a skills planning mechanism. This report aims to describe these various projects and understand what the emerging skills planning mechanism in South Africa will look like.

My interest in skills planning came from working in programme accreditation before pursuing a master's degree. During this time I was registered for a postgraduate qualification in management—an area considered a scarce skill in South Africa. I strategized that this would create a path out of project management/administrative jobs which I had been in for several years However, on receiving my degree I was not able to get promoted from these kinds of jobs in my current company, and other companies complained either that I did not have previous experience in management or I was offered the same kind of job that I was already in. Clearly, my previous conclusion of furthering my qualifications in a bid to get a better job was not the solution. I feel that many people looking at the stated rationale of qualifications as well as the scarce skills lists choose to study further to improve their job prospects and fail. I found it very frustrating, and an interest was sparked in how skills planning is conceptualised to formulate these lists and how the lists are meant to be used by the general public.

Skills in South Africa are seen as essential in building the economy. This could be perceived as the reason DHET sees developing a skills planning mechanism as important in the current context. Shah & Burke (2003, p. 5) define a skill as "an ability to perform a productive task at a certain level of competence... skills is associated with a particular task". Therefore, we can deduct that skills planning is being able to predict the skills needed. A recently released White Paper on the Post-School Education and Training System (2013) says that the function of skills planning should be centralized in DHET, with support from universities and/or other national research institutes. More specifically, DHET (2013) suggests that skills planning is required in the short, medium, and long term in order provide better strategies in the education system to meet the demand for skills. The literature on skills planning is contested on the kinds of skills planning that are possible in different contexts of economic and education systems. There are different notions of what skills planning is, how possible it is to predict skills demand, and how this should be done. There are also differences in ways in which economies are managed which have

direct implications for skills planning. However imperfect, skills planning is needed as it provides an indication of what skills are needed to enable development in the country and provide guidance for the state to support initiatives.

Given my own personal interest and the proposed formation of a skills planning mechanism under DHET, I started reading documents and having informal discussions on the DHET skills planning mechanism. After the initial investigations, I preceded to fact-finding with individuals who are involved in skills planning in different ways to get a sense of how DHET was going about this. My reading and informal questioning provided the information I needed to identify the key DHET officials and various leaders of the key projects of the skills planning mechanism. I interviewed the key individuals that did accept my interview requests. The organisation was commissioned to do some of the projects in the skills planning mechanism declined the interview requests and I engage with their documents to understand what they were doing. Therefore, my findings represent equal parts of interviews and secondary document analysis.

In order to understand the data I collected, I used a set of approaches developed by Wilson, Woolard, & Lee (2004) on Developing a National Skills Planning Tool for South Africa as categories. In this document Wilson et al. (2004) set out four categories that are found in skills planning. I used these four categories to list the various projects under DHET proposed to contribute to the skills planning in South Africa. There were several projects that did not fall as cleanly into the Wilson et al.'s (2004) categories. Therefore, I created three additional categories. Together these seven categories were used to position the projects and their relationship to an emerging skills planning mechanism. I also tried to understand the expectation of the skills planning mechanism from the different perspectives of DHET, the various projects underway, and stakeholders in the form of other government departments that have an interest in skills planning. As mentioned above, I was not able to interview many of the project leaders, further; in terms of stakeholders I was only able to secure interviews with the Department of Trade and Industry (the dti).

This research report presents an overview of the various projects currently underway, and considers the different approaches to skills planning and the relationship between skills planning and the economy. What became clear is that various pieces of work which are underway or completed improve contextual understanding of the various factors influencing skills planning and useful data has been collected which could build insights into currents skills needs. However, what is not yet clear is how skills planning should or will be implemented in DHET. In other words, based on what exists now and is currently being developed, it is not clear to me how a

skills planning mechanism will be developed. There seems to be tensions between the DHET's desires for a skills planning mechanism, the work which has been commissioned, and what is emerging from the commissioned work. There also seems to be some conceptual confusion about the broader economic and political context, the extent to which South Africa can be viewed as a developmental state, and the implications of that for skills planning.

1.2 Background and Problem Statement

In South Africa, low skills levels are seen as contributing to slow economic growth and a high unemployment rate of 25.2, released by Statistics South Africa (2014), which will then affect the political stability and living standards in the country (Department of Higher Education and Training, 2013b). Addressing the problem of low skills is seen as a national priority. DHET (2013b) views the education system as primarily responsible for the provision of skills in South Africa. In looking at the broad context of various entities that are perceived as involved in skills planning, the unemployment rate in South Africa is seen by DHET, at least partly, as a result of the fragmented relationship between the national skills planning and the education system, in the sense that the provision system may not be producing the skills required by the society and economy. However, as DHET (2013b) points out, an education system is not an isolated entity: there are intricate and complex relationship between the labour market, government priorities and economic environment, which will often influence the direction of the education system.

The way in which the state seems to address low skills and employment levels is by voicing its commitment to creating jobs through policies such as industrial policies. These planned interventions in industry necessitate further planning in national skills development to create the supply of skills required. At the core of the work of the dti is the Industrial Policy Action Plan, which outlines planned interventions for industrial development and creating employment. The Department of Trade and Industry (2011, p. 12) states that the South African government has "committed to making employment creation the main criterion for economic policy", and explains that they will do this by "establishing a more labour-absorbing growth plan". The Department of Trade and Industry (2011, p. 67) identifies skill mismatches as a key hindrance to the Industrial Policy Action Plan:

> A key structural constraint to sustainable industrialisation in South Africa has been the absence of demand-driven, sector-specific skills strategies and programmes, aligned with investment, employment and technological imperatives, flowing from key industrial sector strategies under IPAP. A supply-driven approach to skills planning and delivery, as well as the poor interpretation and measurement of medium-to-long term skills demand, have persisted under the National Skills Development Strategy for 2005 – 2011 and the

> decentralised skills delivery system, through the Skills Education and Training Authorities (SETAs).

Another policy that aims to address economic plans and social priorities is the National Development Plan (Department of Trade and Industry, 2011). The National Development Plan is a document which sets out South Africa's economic priorities and identifies actions by the private sector, labour, and government that are to be initiated in partnership to address job and economic challenges (Department of Trade and Industry, 2011). The National Development Plan recognizes the key areas of "agriculture, mining, manufacturing, tourism and high level services" to create employment and identifies the recent record of employment growth has been through the services sector (Department of Trade and Industry, 2011, p. 12). The above speaks to the need to align skills development to the plans for investment in industrial sector strategies and the frustration experienced in the current process of predicting skills demand done by the SETAs (Department of Trade and Industry, 2011).

In short, it is widely believed that the information provided for skills demand can be problematic and this impacts strategising for skills supply. The emphasis is placed on understanding the demand for skills and the critical missing ingredient is information on this, once this is information is provided it is believed unemployment will decrease and this assist in poverty alleviation.

DHET (2013b) perceives South Africa as moving towards becoming a more developmental state. This means that increased coordination across a variety of government institutions is required to stimulate the economy and create an environment for sustained economic growth. DHET (2013b) understand a large part of this coordination demands better information about labour markets, skills demand, relevant and good quality training programmes together with funding and access for skills development in all parts of the country.

After 1994, the South African government created many institutions to improve information of training needs and opportunities in connection with improving access and participation in the education system. These institutions were intended to plan skills development, extend training in the workplace targeting previously disadvantaged groups, and improve the quality of teaching and learning in formal education. The main stakeholder bodies established in line with the Skills Development Act (97 of 1997) were the Sector Education and Training Authorities (SETAs), the National Skills Fund (NSF) and a National Skills Authority (NSA) (Department of Higher Education and Training, 2013).

In 2013, a Ministerial Task Team released a report on the performance of SETAs (Department of Higher Education and Training, 2013c). There are 21 SETAs under DHET. SETAs are stakeholder bodies, with boards consisting of employer and union representatives. They were set up through the levy grant system and distribute funds back to employers in response to training plans and reports. SETAs are required to develop a five year sector plan, which contain sector profile, analysis of demand and supply for skills in the sector and clearly setting out priority skills needs in sector. There are many challenges experienced by the SETAs; the main challenge suggested by the Ministerial Task Team report is that their mandate is too broad in terms of skills development which leads to them to struggling with their responsibilities. The mechanism used to fund skills development is the levy grant system. Employers paid a levy for skills development and 80% of this was paid to the SETAs for two purposes. Firstly, the SETAs would provide levy funds to contributing employers to provide training for their employees. Secondly, the SETAs would support the planning and implementations of skills plans and various types of training (Department of Higher Education and Training, 2013b). SETAs were expected to drive and facilitate sector skills plans in order to achieve the National Skills Development Strategy (Department of Higher Education and Training, 2013b). The National Skills Fund was established and allocated funding specifically for the training of disadvantaged groups and the unemployed (Department of Higher Education and Training, 2013b).

Driving the implementation and planning for sector skills plans means developing insight into the skills needs of their respective sectors and planning with stakeholders to meet these skills demands (Department of Higher Education and Training, 2013b). The Five Year Sector Skills Plans are based on data that SETAs require from companies and workplaces that represent the "skills, experience and qualifications of employees, all training that is taking place in that workplace, and their skills priorities and gaps for both the short term and the medium term" (Department of Higher Education and Training, 2013b, p. xvii). This data is viewed as primarily "employer driven" and perceived as inaccurate for planning future skills demand as there is no clear distinction of skills that are in demand immediately and skills that will be demand in five to seven years (Marock et al., 2012). The information provided by employers is also considered unreliable as employers at times do not submit the necessary information or the information they provide is incomplete (Allais, 2013).

The SETAs' skills planning has been identified as a serious weakness, and the Five Year Sector Skills Plans have low credibility(Department of Higher Education and Training, 2013b). DHET (2013b, p. 57) suggests that specific areas within the SETAs that need immediate attention to

strengthen national skills planning are "inadequate research capacity, a lack of economics, labour market and industry expertise, poor data management and a lack of planning expertise". The Ministerial Task Team which reported on SETA performance suggested SETAs struggle broadly with multiple challenges such as governance and operational issues; uneven strategic sector planning and research capability; administration and financial management; poor monitoring and evaluation; difficulties in effectively engaging with cross sectoral development and training; and are perceived negatively by the public (Department of Higher Education and Training, 2013c).

One significant problem with SETA sectoral skills planning is that many occupations are economy wide (Marock et al., 2012). Economy wide skills planning is seen as essential for the implementation of the National Development Plan, the New Growth Path and the Industrial Policy Action Plan. Stronger research expertise is critical for better skills planning, together with well-informed data management and analysis regarding skills demand and supply in the current South African labour market and economy (Department of Higher Education and Training, 2013b). Effective skills plans need to be based on data from current workplace skills statistics, local and international labour market trends, and projected skills needs of development plans (Department of Higher Education and Training, 2013b). All of this has informed the Department of Higher Education and Training in its plans to centralize skills planning (Department of Higher Education and Training, 2013b).

Within skills planning in South Africa, there are various bodies and a framework that are not addressed in this research report that contribute to skills planning. Two key ones worth a brief mention are the Human Resource Development Council (HRDC) and the Organizing Framework for Occupations (OFO). I have not addressed them as this research only focuses on the projects supported by DHET that are intended to contribute to the development of a skills planning mechanism. Such a mechanism will relate to the other bodies and policies but a detailed investigation of all them is beyond the scope of the research. The HRDC sets the National Human Resource Development Strategy and is intended to bring high-level stakeholders together to ensure coherence in skills planning (Human Resource Development Council, 2015). The OFO, the most recent version of which was released in 2013, is meant to provide a common language for occupations for the dialogue of skills supply and demand (Department of Higher Education and Training, 2013a). The OFO is described as the main tool for skills planning. It is an occupational classification system which analyses jobs in terms of tasks and skills, categorizes similar jobs into occupations, and classifies occupations into occupational groups. I have not directly engaged with the OFO, though it has been used in the skills planning

mechanism and several SETAs have created their own OFO guidelines. This body and framework were beyond the scope of the current research.

The White Paper in Post School Education and Training (2013b) sets out plans to work with new development plans and strategies and this can be seen as a signal that South Africa is trying to align education to its industrial structure and its economic policies outlined in the New Development Plan and the Industrial Policy Action Plan 2. It is important to note that policies since 1994, such as Education White Paper 3 (A programme for the transformation of higher education 1997) speaks about linking skills developed in higher education to the skills needed in the market to enable South Africa to compete globally. However, as discussed below, the policies have not been successful in implementing an effective link between education and labour market requirements (Department of Higher Education and Training, 2013b)

South Africa requires skills planning to try and anticipate the changing skills needs in the country with the hope that support can be found for initiatives for skills development. Many government policies and speeches in South Africa have spoken directly to the frustration experienced in predicting skills needed for the economy. Such predictions are necessary for the planning and strategies in labour, economic planning and the education system in order to alleviate high unemployment. Recently, the South African Minister of Education and Training committed to providing the president with a "credible institutional mechanism for skills planning" (Marock, Yeowart, & Singizi, 2012, p. 1). Subsequently, the White Paper for Post School Education and Training states that the DHET will consolidate various projects that will focus on predicting future skills needed in the South African economy in order to create a "central skills planning system" (Department of Higher Education and Training, 2013b, p. xvi). DHET's stated intention in the White Paper is to set up a planning unit that will work with public institutions to develop skills that are needed for the economy (Department of Higher Education and Training, 2013b).

Therefore, I tried to investigate and understand the emerging skills planning mechanism in South Africa. During the initial state of this research, I tried to find out how the proposed skills planning mechanism was being implemented. I realised there was little public information available and the mechanism was in its very early stages of development. I wanted to find out how it was being conceptualised and what was happening in order to try to create such a mechanism.

1.3 Research Questions

My research questions are intended to understand the skills planning mechanism: how it is conceptualised and how it is being developed in South Africa. The research questions focus on two aspects of the skills planning mechanism. The first part is how the Department and key stakeholders understand and envision skills planning to occur. The second part investigates the projects supported by the DHET that are contributing to skills planning, to understand how the projects understand skills planning, and how they might start fitting together or leading to the creation of a central mechanism for skills planning that the DHET wants.

1.4 The Purpose of the Study

The purpose of the study is to provide a descriptive account of the emerging central mechanism for skills planning being created by the DHET. The research investigates and provides an overview of how a skill planning is understood by various key individuals and projects contributing to the skills planning mechanism.

Currently, there are many documents available publicly but it is difficult to find a congruent story for how skills planning will occur with the information available. My study will provide insights into how skills planning is conceptualised and how it is being conducted in the projects, by trying to understand the various approaches and placing the projects into categories that either influence skills planning or are considered ways to plan skills. Significant amounts of public funds, research, and dialogue has occurred in South Africa over the role of skills development in alleviating poverty and creating employment. The value of the study is to try and understand how this is implemented by providing information and analysis on skills planning in South Africa by considering skills planning contexts and methods.

To sum up, in this chapter, I explained that, after being sparked by personal concerns, I became interested in how skills planning is done in South Africa, and discovered that, although the Department has a vision for a centralized way of doing it, there is as yet no actual mechanism. I wanted to understand how it is attempting to create such a mechanism, and my initial investigations led me to understand that the Department has supported a set of projects which are supposed to contribute to the creation/emergence of this mechanism. In the following chapter, I look at the different contexts for skills planning and their implications, the context in South Africa and the different approaches to skills planning.

In Chapter 2, I discuss the positions held in skills planning. This will be discussed in two ways, the first way will be to look at the relationships between economic and education systems that possibly inform skills planning and the second way will be various methods of or approaches to skills planning.

In Chapter 3, I provide a detailed account of the process by which this study was conducted. The information on the Department of Higher Education and Training through interviews with key people involved and document analysis. The main research question is centered on what a skills planning mechanism is meant to do, what the various projects supported by DHET do, and how they fit together.

In Chapter 4 presents the main findings from the interviews and document analysis described above. The first section discusses how the skills planning mechanism is envisaged by the different groups of people associated with the mechanism. The second section categorizes the various projects currently underway, to understand their role in terms of an emerging skills planning mechanism.

In Chapter 5, reflects on the findings chapter and analyses the views and projects emerging in the skills planning mechanism. The conclusion of this analysis is that the ingredients for a skills planning mechanism are present but the plan on how these ingredients are combined together to do skills planning or more specifically the method/ recipe for skills planning is not clear yet.

Chapter Two: Literature Review

Skills planning is widely perceived as important but complex. This complexity seems to be caused by the multitude of relationships between education and economic systems. Planning in education can also be viewed as contentious, with some holding the position that it is difficult to use certain measures to plan skills supply and other proposing models to meet skills demand and supply. In this chapter I will look at some of the positions held on skills planning and its contexts together with the methods used in skills planning.

As defined earlier, a skill is the ability of a person to fulfill a certain task. Therefore, within skills planning is the idea that we can measure skills, group them together in occupations and put forward numbers for occupations demanded in the economy and strategise the supply to meet this demand. This all seems very logical and straightforward. But in reality, skills planning can be quite complex and needs nuanced methods to address the problems in an environment.

This chapter contains two sections. The first section will show the relationships between education and economic systems and how they possibly can inform skills planning with a discussion on the South African context for skills planning and a discussion on whether skills planning is possible. The second section will present various methods of, or approaches to skills planning.

2.1 Skills Planning in Context of Economic and Education Systems

There is a strong argument that skills planning is more likely to be enabled in a particular type of economic and education system.

As mentioned above, many people believe there is a relationship between unemployment (which could be perceived as part of economic systems) and low skills (which could be perceived as part of education systems) that needs to be understood to intervene in the economic and social policy. According to Chang (2003), the free market economy model was made popular in developed countries. The philosophy promotes low barriers to the international flow of trade, capital and labour; minimal government intervention in economic policies; and low investment in education and training systems. With regard to education and training, the underlying assumption is that the market, through supply and demand of skills, will influence the education system to provide the skills needed without government intervention.

The Asian 'development state' model is based on an analysis of some East Asian countries in terms of the way they developed their economies, industries, and education systems. Examples of countries were Hong Kong, Singapore, Taiwan, South Korea, Thailand, Indonesia, Japan and Malaysia. The idea of a developmental state was first suggested to explain Japan's rapid industrialization. Subsequently, the above mentioned other countries imitated Japan and moved away from the neoliberal economic policies that were popular in the West (Chang, 2003).

Over the last half of the 20th century, the above mentioned East Asian countries have achieved sustained and high growth of their industries, macroeconomic stability and significant development of their labour (Ashton, Green, Sung, & James, 2002). In one generation these countries shifted their economy to producers of high value goods. Increasing the skills of their labour force is believed by some researchers to be a key component of this shift in the economy (Ashton et al., 2002). Governments in East Asian countries used a series of economic and industrial policy interventions together with interventions in supporting education institutions to provide the skills needed to enable their economic and industrial plan. Ashton et al. (2002) argue that the macroeconomic growth produced jobs that required highly skilled labour and therefore, the education system worked in collaboration with the economic and industrial policy of the country.

Ashton et al. (2002) suggest that the speed of economic growth in East Asian countries from the 1960s into the 1990s changed the types of skills needed in the labour market. In the early stages of industrialization, the market needed relatively low skilled labour that had a basic primary education and was literate and disciplined. As the economies progressed to the production of high value goods and services, employers required higher levels of education and a larger supply of intermediate skills which included skills in technical, problem solving and team work. Ashton et al. (2002) and Chang (2003) argue that the Asian Tigers demonstrate the importance of the state driving industrialisation and shaping this skills formation system around the industrialization process; this played an important role in ensuring the supply of skills matched the emerging needs of the economy.

An example of the development model can be seen in South Korea. Park (2013) discusses how in South Korea the state used a variety of mechanisms that ensured the right information and the requirements of economic development were placed above the needs of other groups and contradicting objectives in the education and training system. In other words, the developmental model makes a strong case for strategic government interventions in directing economic growth through industrial and trade policy in conjunction with changing the education and training

system. Park (2013) describes how in the 1970s in South Korea, the state proactively drove the Heavy and Chemical Industrialization as the nation's encompassing goal in its economic and industrial policies. Though the vocational system was very weak in the 1960s, this did not prevent the economic growth as the labour intensive light manufacturing industries required an abundant supply of unskilled labour in the rural areas. The government led the skills formation system through the Presidential Secretariat and Heavy Chemical Industry Promotion Committee which pushed forward the development of vocational training in the upper secondary level and post-school education in line with the skills needed for the industrial sector. The success of this shift relied on a supply of skilled labour for the industry.

In short, when an economy is being centrally driven, the state has knowledge of what skills are needed and so can plan and drive the supply side of skills. When a state moves away from a more planned approach in its economy, it can become difficult to plan skills; this can be seen in Latin America.

Experiences in Latin America give insight into the difficulty associated with producing the skills required by the economy in a move from a government controlled economy to neoliberal policies with 'market friendly' reforms and the subsequent frustrations of skills development for economic growth. From the 1950s to the 1980s, the state played a key role in shaping the skills formation system and played a more directive role in manufacturing and economic policies (Palma, 2003). However, during the 1970s the global economic crisis together with the political crisis in the Latin American region caused poor economic growth in this region. In response to continued poor economic growth during the 1980s and growing stronger ties to the West, most countries in the region deployed more 'market friendly' economic strategies or a neo-liberal model. The defining characteristics of these reforms were the freedom of international trade, inflows of external capital and the domestic financial sector (Ocampo 2004). The reforms had a significant effect on fiscal expenditure, most countries decreased their social spending and changes were introduced in social policy (Ocampo, 2004).

Despite these reforms, the region did not experience the anticipated economic growth these reforms were intended to bring. From 1950 to 1981, the output in Latin America increased at the high rate of 5.3% annually, while it had the fastest growing population, income per capita more than doubled. But from 1981-2000, though GDP increased at less than 2.2% annually, income per capita decreased (Palma, 2003). A significant change in response to the low GDP in the 1990s in Latin America was the increase in spending in the social arena, which led to improvements in education (Ocampo, 2004). There was a rise in attendance of secondary and

university education (Ocampo, 2004). However, the lowest performing area in the reform period was in the labour markets. This was reflected in the rising level of unemployment and low productivity among workers in relation to the gross domestic product (Ocampo,2004). Unemployment in the 1990s rose from 43.0 to 48.4% (Ocampo, 2004). The structural changes in the economies led to a shortage of necessary skills for the new industries due to the lack of planning to supply these skills.

The way in which skills formation systems evolve is also quite complex. There are often mixtures of different types of economic policies, authority, institutions and education and training that form the context under which skills planning occurs. Keating (2008) looks at the way in which countries plan and manage the supply of skills to meet current and future skills needs of the country. He outlines three strategies used in skills planning: state planning and interventions; the use of elements of civil society such as industry and employers; and the market. He also outlines five mechanisms that the state can use in the mixture of strategies that they use to plan skills. Firstly, government agencies are set up in a skills formation system as training authorities who have authority to regulate and allocate public funds for training. Secondly, national regional and industry sectoral agencies are responsible for setting industry skills standards and fulfill other advisory and some regulatory roles. Thirdly, incentives for individuals and enterprises to encourage investment into training. Fourthly, information and intelligence on future skills needs and shortages that are analysed by regional agencies. Fifthly, innovations in funding systems that allows decisions to allow training away from providers. Sixthly, a qualifications system that is designed to influence the investment in training. In his paper, Keating deducts the following skills formation systems with their characteristics:

- State regulated and planned approach (example Singapore)
    - This involves attempts to match skills supply through highly planned investment in formal education and training. This is combined with a number of interventions in the labour market which encourage the demand in industry for high skills. The country is determined to move towards high skills and value added industries; this high intervention approach is combined with a more market based approach.
- High involvement and devolved approach (example Norway)
    - This involves high levels of social capital and investment with high public investment in education and involvement of social partners in education and skills planning. It requires high involvement of social partners which means less central government control.
- Institutional, social and economic integration approach (example Germany)

- Germany has a complete national system of intermediate skills formation; it is a planned model that integrates government and social partners with links to structure of Vocational Education Training (VET) in economy. The system is highly planned and regulated, it has the capacity for the initial training for large numbers of labour market entrants with specific intermediate skills that is achieved at significant costs.

- A mixed model approach (example UK)
  - The structures of education and training are different across four nations in the UK, with some having more autonomous education, some having comprehensive vocational elements similar to VET and some having diverse education provision and programmes. This is education's diverse response to the UK's economy with forms of neo-liberalism in economic policy cultures. It is interesting to note that the UK has often been criticized for its inability to develop high levels of skills.
- Institutionalized but market based approach (example China)

  The quality of graduates leaving middle level training institutions is high. Technical and vocational schools have large occupational training schemes that have direct links to enterprises, therefore most graduates go on to work for these enterprises on graduation. However, China does generally have a large surplus of labour that are either displaced or left behind by economic change or rate of change in an industry.

From the brief discussion above, it is clear that the nature of skills planning is heavily determined by the economic and political context. It is therefore necessary to look at the South African context of skills planning.

2.1.1 South African Context for Skills Planning

Allais & Nathan (2014) discuss how in South Africa, both education and the economy have problems that have been inherited from the apartheid system. Many young people leave education system without much opportunity to access post school training and education. Many people believe that the skills shortage is a main contributor to the unemployment problem. However, there can be other reasons for unemployment. In South Africa, Mohamed (2010) argues that the type of economic growth and investment are related to the kind of demand of skills it creates. Therefore, in exploring a mechanism for skills planning, there is a need to look at the larger context of skills formation systems and its influencing factors. South Africa has inherited a weak industrial structure that is focused around minerals and energy because of the political, economic and historical processes that shaped its industrialization (Mohamed, 2010).

Mohamed's (2010) analysis shows that there is a strong relationship between the quality of economic growth, investment and types of employment. Mohamed (2010) argues that South

Africa's macroeconomic policies have been informed by a neoliberal perspective, expressed in lower government budget deficit, a focus on constraining inflation, and more commonly in the reduction of government expenditure on social services. This perspective can be seen in the policies in South Africa that was set out by the Growth and Employment and Redistribution (GEAR) in 1996, which introduced trade and financial liberalization. Adelzadeh (1996) presents strong arguments that the goal in the neoliberal strategy was to boost investor confidence and embrace a conservative macroeconomic framework that led to constrained growth, employment and redistribution. Post-apartheid South Africa has a weak industrial structure due to the massive changes in corporate structure that were influenced by international markets (Mohamed,2010). Adelzadeh (1996) and Weeks (1999) both argue that GEAR's economic policies were never intended to increase growth in jobs as the predictions of growth was not based in scenarios grounded in the then current trajectory of the economy. Adelzadeh (1996) specifically argues that predictions of employment were solely based on predictions of economic growth in a model that were not made public and therefore, it was difficult to ascertain the accuracy of the model of growth used.

Weeks (1999) and Mohamed (2010) both agree that the policies favoured big business and those that were already wealthy. Big business that at the time moved production offshore, limited their investment in the new economy, moved their capital and listings overseas and were unwilling to invest in producing jobs (Mohamed, 2010). This situation over time created an increase in the contracting "out of services" and "non core activities", which made causualised jobs more common than full time (Mohamed, 2010, p. 20). Adelzadeh (1996), Mohamed (2010) and Weeks (1999) highlight the complexity of the South African economic policies and its impact upon unemployment. Unemployment does not exist in a vacuum where the intervention to create more skilled workers is enough. Successful intervention in this area needs to address the deeply entrenched economic and industrial structures that contribute to the current situation in South Africa.

2.1.2 Skills planning attempts in South Africa

Wilson et al. (2004) in their work on skills planning in South Africa considered previous skills planning attempts in South Africa. This includes work by the Human Sciences Research Council (HSRC), Bureau of Market Research and Individual Sectoral Studies.

In 1999, the HSRC did a study of the South African labour market trends and workforce needs in the light of formal employment from 1999-2003. This gave very precise projections of skills

needs, one of which was a projection of the creation of 50 000 jobs despite a forecasted growth in economic output of 2.7%.

In 2001, the European Union (EU), the Department of Labour, and the dti appointed a member of the Bureau of Market Research to do a study in skills shortages and ways in which to more quickly move skills development. The study produced suggestions for the training for specific occupations and suggested that the education system should be more closely aligned with the needs of employers.

In 2003, the HSRC continued its work in providing forecasts for employment for specific high skilled occupations over the period of 2001-2006. This forecast included new demand and replacement demand of skills caused by retirement and mortality rates. SETA studies, though focussed on specific sectors, did provide insights such as the study done by Financial and Accounting Services which predicted numbers of professionals needed in the sector given positive economic growth, but the scenarios heavily relied on how the economy performed and availability of skilled professionals.

Wilson et al. (2004, p. 16) argues that the problem with previous attempts fail at skills planning is because there was the expectation that projections "should deliver precise answers about where investment in education and training provision needs to be made". Wilson et al. (2004, p. 16) reflect that it is now understood in most countries that this is not possible in an economy driven by the market where "market outcomes reflect the combinations of huge numbers of individual decisions". This is one of the positions that I take in my research: that very precise projections cannot be taken and directly implemented in the education system given South Africa's market driven economy, as these projections rely on certain variables that are not within our control.

2.2 Skills planning methods

Given that skills planning can be very complex and the way it is implemented varies according to environment. This section is broken down in two parts. The first section discusses the argument that skills planning is not possible, that the way in which an economy is planned can help or hinder skills planning. The second section discusses the possibility of skills planning and how definitions and methods forms skill planning in implementation.

2.2.1 Is skills planning possible?

As mentioned in the introduction to this chapter, skills planning can be complex. This leads to much debate if skills planning is possible and if so, what methods should be used and why. Klees (1986) discusses planning and policy analysis in education, he suggests that it is either easy or very difficult to believe that researchers can create valid and reliable indicators for skills planning for policies, due to the nature of the arguments of how an economy is managed and its implications. Klees (1986, p. 605) argues that either way has supporters of education policy and policy analysis and therefore makes the argument that "we can pretend that there is an agreed-on and growing "knowledge based" when the reality is endlessly contestable and contested claims" when it comes to skills planning methods. One of his examples is that of the indicator rate of return on education which summarizes wage differences between groups with different levels of educational attainment. This indicator is difficult because it is generally recognized that the differences between earnings of groups with different schooling can be caused by a variety of factors. Therefore, measures of skills and outcomes which are essential to planning can be questioned for validity. Klees (1986, p. 605) provides a challenge: he believes that the question facing the academic and policy community is what to do with the "diverse social sciences perspectives, all of which have differing implication for how we should plan and choose". Given Klees's question and the ways in which skills planning can be contentious, I will now look at the arguments within skills planning in different contexts.

The other aspects to consider when planning for skills is that there is a disagreement on what kind of planning is possible given certain contexts. Both Marock et al. (2012) and Wilson et al. (2004) agree that that it is very difficult to predict skills accurately as it is difficult to control the external factors of the global economy, value of the rand and changes in technology, therefore job growth depends on factors that are changeable. However, everyone agrees that a measure of skills planning is needed because economic growth often rests on a supply of specific skills. The key idea here is that there are limits to what can be accurately predicted and this needs to be taken into account, but skills predicting can assist in making assumptions about the future and put into place systematic and local thinking and create active debate on what skills are needed (Wilson et al., 2004). However, there are limits to using demand in forecasting skills, as highlighted by Richardson (2007), who points out that employers' interests do not always accurately forecast demand, as it could be seen as in the employers' best interests to have an oversupply of a certain skill as this can reduce the cost of employees.

An area that needs to be considered when discussing skills is the nature of the skills shortages debate concerning employers through the arguments of Green et al. (1998) and Richardson (2007). Green et al. (1998) conducted a study with British employers to understand what they understand as skills shortages and the sources of information they used to make this judgment. They highlight that what employers mean by skills can include a broad series of behavioural attributes such as reliability, working independently without supervision, and stability of employment. This means that employers are looking for both behavioural attributes and technical skill. They found in their research that not all employers had the same measure in understanding and interpreting skills shortages. Many employers felt that in the workforce there was a lack of social skills such as motivational and attitudinal skills, it seems that employers view these social skills as an important part of the shortage of skills and feel the development of these skills is not the responsibility of the employer. This has large implications on the skills debate and provides a different meaning to the measure of skills shortages. Richardson (2007) considers the market economy as dynamic with jobs being created, growing, reducing and even dying out completely. This is due to the choices made by individual workers and employers who will ultimately produce levels and supply of skills that are less than needed for maximum output and growth. There are several different reasons for this, one of them being that the person/firm making the decision to train an employee further may not get the full benefit of the extra skills training: firms are often wary due to the nature of poaching as soon as an employee is trained further. However, it needs to be remembered that the employee might leave due to other conditions such as pay and overtime, this needs to be addressed when trying to adjust skills supplies. Richardson (2007) specifically looks at the circumstances which makes a large number of employers remain in conditions of low technology use and only use low skilled labour as opposed to using more efficient technology or machines that would require higher skilled labour, the situation employers fear is that the employer by providing expensive training for employees would ultimately face the poaching of their employees with new skills. And therefore, a cycle of low skills is maintained.

Another example of arguments in skills shortages which leads to the need for skills planning is the two different arguments presented by Cappelli (2015). The first argument is the skills gap idea: the idea is there is some systematic decline in skills in entire age groups in the populations, this argument is generally associated with the decline in skills of school leavers and subsequently, blame is placed on the schools/education system. The second argument is the labour shortage argument: the idea is that there were not enough people to meet the labour demand; this

argument claims that the population and potential labour force is shrinking. All these arguments can lead to different and compelling focuses in skills planning.

In the section above I have used Green et al. (1998) and Richardson (2007) to provide a different view of skills planning in the market economy. Green et al. (1998) highlight that employers use different measures for lists of scarce skills and that employers can influence the process by their definitions of skills shortages. Some may argue that attitudinal and behavioural skills are essential, yet is it fair to put this burden on the education system? The education system already is burdened with curriculum, teaching and strategic training issues that are required to produce skilled workers for the economy. Richardson (2007) presents the perspective of a market led economy driven by numerous individual decisions and the uncertainty that can be introduced into skills planning. The presentation of these different perspectives in skills planning will now lead to different methods of skills planning which will be referred back to in this research report.

2.2.2 Definitions and Methods for skills planning

A good way to begin to understand skills planning is to try to understand definitions that can drive skills planning. The definitions I have drawn are from papers by Richardson (2007) and Shah & Burke (2003).

Shah & Burke (2003, p. v) outline three definitions in the skills shortage debate.

> A shortage occurs when the demand for workers for particular occupation is greater than the supply of workers who are qualified, available, and willing to work under existing market conditions.
>
> A skills gap refers to a situation where employers are hiring workers whom they consider under skilled or their existing workforce is under skilled relative to some desired level
>
> Recruitment difficulties refer to the situation when employers cannot fill vacancies in spite of an adequate supply of workers.

To look at skills shortages Richardson (2007, p. 9) discusses skills shortages in the following categories:

> Level 1 Shortage:
>
> There are few people who have the essential technical skills who are not already using them and there is a long training time to develop the skills

Level 2 Shortages

There are few people who have the essential technical skills who are not already using them but there is a short training time to develop skills

Skills mismatch

There are sufficient people who have the essential technical skills who are not already using them, but they are not willing to apply for the vacancies under current conditions

Quality gap

There are sufficient people with the essential technical skills who are not already using them and who are willing to apply for the vacancies, but they lack some qualities that employers consider important.

The definitions are very similar and the reason for presenting them is that I want to highlight the similarities in the skills shortages literature. And within the skills shortage literature there is some variation on how authors feel certain types of skills shortages should be dealt with. For instance Marock et al. (2012) cites Richardson who highlights that the biggest obstacle to overcome is the level 1 shortage as it takes time to train these potential employees. Skills shortages definitions control the way in which planners will look at skills and how they will perceive the demands on the suppliers of skills.

Marock et al. (2012) cites The Canadian Council of Learning which identified two main approaches to occupational forecasting: workforce prediction and labor market analyses. Workforce prediction can be viewed as informed by the state. It is used at a sectoral level and the prediction of skills is informed by the decisions and policies of the state that inform education and training requirements. It is typically viewed as a long- to medium-term prediction. Labour Market Analyses use signals from newspaper job listings, provincial and public employment listings and unemployment rates to predict labour and education requirements. This is often viewed as short-term.

Marock et al. (2012) cites a report of the Department for Employment and Learning in Northern Ireland which focused on 14 countries in which 10 used census data together with Labour Force surveys to predict skills which shows the perception of the importance of accurate data being required in skills planning. The study found that there are different types of data used in skills prediction such as company data, national accounts, education and training surveys, employers' surveys and labour force surveys. Employer surveys usage was increasing, though Sweden only

relied on this information. Most countries use two or more sources to predict skills together with census data, Germany uses seven data sources and France uses six.

Wilson et al. (2004) present approaches or types of methods used to predict skills. Early approaches used quantitative methods which simply provide outputs of skills needs for the results. These models typically need detailed and accurate statistical data which can easily be found in countries like the United States as they have been using statistics in this area for 50 years but it can be difficult in other countries where these infrastructure is not in place to provide this kind of data.

Wilson et al. (2004) suggest that the main approaches globally are 1) the formal, national level, quantitative model based projects; 2) sectoral studies; 3) focus groups or round tables; and 4) employer surveys. They elaborate on each of these as discussed below.

Quantitative model based projects are typically an ongoing process. The projects are seen as valuable to policy makers and people involved in the economic development and participants shaping the labour market. The projects highlight how the labour market responds and develops in response to various external forces such as GDP, oil prices etc. Governments typically invest large amounts of funding and this kind of quantitative model preferred mechanism for forecasting skills. These models typically have two elements: one is multi-sectoral macroeconomic models that consist of input-output tables and include links between sectors. The second is a set of models that contain the outcomes of multi-sectoral models and provide the results for the demand of skills. The data is formulated in conjunction with employment structures in the sector and this can be viewed as limited. The quantitative model is seen as important in creating a "robust and consistent sectoral employment scenario" which is a critical starting point in any detailed assessments of changing skills needs and strategies to supply to meet these skills needs (Wilson et al., 2004, p. 13). The advantage of such a model is the sectoral detail it provides. Further, it covers the whole economy, it is consistent and logical; it contains accounting and economic constraints and influences; it makes its underlying assumptions known and it presents scenarios that are consistent across all sectors. The problems associated with this approach are data limitations; cost of the development and maintenance of the system are high; there is a limited understanding of the complexity of how markets function; resources can be limited by context and the model is based on past behaviour pattern which assumes that this behaviour continues, which may not always be the case. For instance, Levine (2013) provides examples of how people with degrees are parking attendants because they cannot find a job in

the area of the degree. It is not necessarily a given that if a person has a degree, that they will have a particular kind of job or be able to find employment in a particular field.

Wilson et al. (2004) call the second approach sectoral studies. These studies involve different methodologies and actors which take into account problems and important developments from different angles. They often have a geographical focus and are set up to monitor skills needs on a local level. The strength of this approach is that it is focused on the specifics for a sector. The weakness is that it does not provide a consistent picture of skills needed across sectors and as discussed earlier, employers can be an unreliable source of information as an oversupply of certain skills works to their benefit.

Wilson et al.'s (2004) third approach is focus groups and round tables, which are seen as qualitative methods needed in skills forecasting which include case studies and detailed interviews with stakeholders and employers. The combination of these types of studies is considered a mechanism to provide qualitative data on issues that quantitative data cannot provide in skills planning. The strength of this approach is that it provides a holistic picture and has the direct involvement of stakeholders and employers. The weakness of this approach is that it is highly subjective, inconsistent and not systematic.

The fourth approach is surveys with employer and other groups. These surveys are conducted to assess current skills in the workplace and skills gaps. These surveys provide figures of immediate skills needs (Wilson et al. 2004). The strength of this approach is that involves the employers who are directly experiencing skills shortages and are affected by the methods used to develop skills in the economy. The weakness of this approach is that it can be subjective and inconsistent and can focus on vacancies rather than actual skills gaps in the workforce.

It is important to highlight here that Marock et al. (2012) and Wilson et al. (2004) agree that in order to predict short-, medium- and long-term skills- a combination of these approaches is needed to provide a picture which is as accurate as possible. Hence, the Wilson et al's (2004) four broad approaches will form categories as the basis of my conceptual framework that I will use to analyse the emerging central skills planning mechanism in South Africa.

In this chapter, I discussed different approaches to skills planning and the various influences that the economy has on the skills development strategies. The main arguments revolve around skills planning being complex and that skills planning in a dynamic market economy involves several individual decisions that can make planning difficult. One of the main points I highlighted in the literature review is that skills planning is largely related to and evolves in a context, skills

formation systems need to serve the needs of the context they are in. In the next chapter I will set out my methodology, the approach I used in investigating the emerging skills planning mechanism and the conceptual framework that I developed to interpret skills planning and categorize the projects.

Chapter Three: Methodology

In order to understand the skills planning mechanism in South Africa, I examined different contexts in which skills planning takes place, debates about how do to it, and methods or approaches to skills planning, in the previous chapter. One of the arguments that resonates with the South African environment is that skills planning needs to use mechanisms that work for the environment that they are in, including larger goals of industry and government in order to plan for skills. I will take into account approaches to skills planning and the way they will influence the creation and purpose of a mechanism for skills planning in this study.

This chapter will detail the process by which this study was conducted. The study is a qualitative descriptive study. It aimed to provide a descriptive account of what is expected/ envisaged for the various projects implemented by the Department of Higher Education and Training in skills planning. A descriptive design in research provides a "summary of existing phenomenon" and characterizes something as it is (McMillan & Schumacher, 2014, p. 30). The main research question is centered on what a skills planning mechanism is meant to do, what the various projects supported by DHET do, and how they fit together.

There were specific questions that I was seeking to answer in this study. In terms of DHET officials, the questions I attempted to answer are: What does the Department of Higher Education and Training thinks a central skills planning mechanism should do? The related sub – questions are:

- How does the DHET understand skills planning?
- How does it think such a mechanism would work?
- What is it doing to establish such a mechanism?
- How far is the process of establishing such a mechanism?

As mentioned, there are various organizations and systems which are intended to contribute to skills planning and development such as the SETAs and HRDC, frameworks and lists such as the Organising Framework for Occupations, 5 year Sector Skills Plans and Workplace Skills Plans. However, given that the DHET has stated a commitment to the creation of a central mechanism for skills planning, and given that it has supported a set of projects to lead to such a mechanism, a key focus of the research was to understand these projects. In this regard, a set of questions was developed:

- What projects are already underway under the DHET for predicting skills?

- How does each project contribute to the skills planning mechanism?
- What is the underlying philosophy of each project? /What do they understand as predicting skills?
- What are the specific sectors each project is investigating?
- What are the key inputs for each project?
- What methodology is each project is using?
- What are the key planned/intended outputs for each project?
- Considering each project, what are the key factors and environmental conditions that can affect skills planning?

This chapter is broken down into two parts. The first part is the overview of the research process and the second part is the conceptual framework.

3.1 Overview of research process

3.1.1 The planned process versus the actual process

This section provides details of the planned process for this study, as well as a description of what happened in the study.

The study started with reading documentation that was associated to skills planning and having a few informal conversations. These informal conversations provided information regarding key people to interview and documentation. After this information gathering through discussions and documents, I planned to conduct approximately 12 elite interviews with key role players related to the emerging skills planning mechanism and document analysis of official project descriptions, official reports, and key documents obtained at interviews. The initial participants were chosen by purposeful sampling based on the roles that they play in relation to the proposed/emerging central skills planning mechanism. I envisaged three different groups of participants:

- DHET staff involved in the Skill Planning System:
    - Deputy Director General: Planning and Monitoring, DHET
    - Director: Research Coordination, Monitoring and Evaluation, DHET
    - Director: SETAs and Learnerships, DHET
- Key role players in the projects supported by DHET which are contributing to the process of establishing a central skills planning mechanism:

- Labour Market Intelligence Partnership (LMIP) under the HSRC:
  - Executive Director: Education and Skills Development, HRSC
  - The Development Policy Research Unit (DPRU)at the University of Cape Town
    - Director or,
    - Economist.
  - a researcher at the HSRC heading a project under the auspices of the broad LMIP project.
- Applied Development Research Solutions (ADRS) / Centre for Researching Education and Labour (REAL) Linked Macro – Education Model:
  - REAL Project Manager
  - Economist.

- Government officials from other strategic departments with a particular interest in the central skills planning mechanism:
  - Deputy Director General for Economic Planning, Department of Economic Planning
  - Deputy Director General for Special Projects, DHET
  - Chief Director of the Skills for the economy unit , the dti.

At the beginning of the study, I realized that I had an ambitious list of potential participants but I hoped to get as many interviews as possible.

3.1.2 Category One: DHET

3.1.2.1 Interviews

I planned to interview three key DHET officials and ended up interviewing four, as they were all involved directly in the emerging skills planning mechanism. All four of the DHET officials had either skills planning as part of their outcomes of their departments or were involved directly in a component influencing skills planning. I interviewed:

- Deputy Director General: Planning and Monitoring, DHET
- Director: Research Coordination, Monitoring and Evaluation, DHET
- Director: SETAs and Learnerships, DHET
- Deputy Director General for Special Projects ,DHET

The full interview questions can be found in Appendix 1.

3.1.2.2 Documents

In assessing what data I needed for the study, I wanted to find a document that spoke to the original intention for the skills planning mechanism. I used the Minister's address at the opening of the HSRC Labour Market Intelligence Partnership (LMIP) where majority of the projects under the skills planning mechanism are based. In this speech he sets out the DHET's broad vision and expectation for the skills planning mechanism. The full title of the document is: 4th of September Address by Minister of Higher Education and Training, Dr. Blade Nzimande at the launch of Labour Market Intelligence Partnership.

3.1.3 Category Two: Projects which are intended to contribute to the emerging Skills Planning mechanism

There are two key projects outside of government supported by the DHET which should contribute to the emerging skills planning mechanism.

The first project is the ADRS/REAL Linked Macro Education Model. This is a multi-sectoral econometric model that is intended to provide projections for skills needs in sectors. I interviewed the lead economist and project manager for this project. They answered questions regarding the emerging skills planning mechanism and explained the project. In addition to the interviews I used the summary document that describes this project: DHET Skills Planning Tool, Achieving Evidence-Based Skills Planning with ADRS Linked Macro – Education Model, REAL Centre 2015. The full interview questions can be found in Appendix 2.

The second project is really a set of projects under the HSRC, called the Labour Market Intelligence Partnership (LMIP). These projects are intended in various ways to contribute to the skills planning mechanism. This section was very complex to put together for two reasons. The first reason is that the project leader was unavailable for an interview and subsequently all the project leaders were unavailable for interviews. This was decided at a national steering committee. The initial plan was to rely on the interviews for the majority of the data and use some documentation from the projects. This rapidly changed when all relevant potential interviewees associated with the HSRC Labour Market Intelligence Partnership (LMIP) denied my request for interviews regarding the projects, instead referring me to documentation on the Labour Market Intelligence Partnership (LMIP) website and documents I managed to gather from round table discussions. For the duration of the study I attended all the round table discussions, and presentations of various aspects of the projects, and project planning meetings, where these were open to the public and related to the emerging skills planning mechanism. I was directed to the numerous documents on the project on the LMIP website. This meant I had

to sift through the information to try to understand what was being done. There were many documents and they were at times repetitive, and it was not always clear how they related to each other, or which organization they emanated from, or whether they were directly related to the LMIP project or not. Each document also refers to forthcoming research. I read over 20 documents which consisted of working papers, project documents, reports, policy briefs and ministerial briefings, these are all listed in Appendix 3.What made it more complex was that while the project is under the HSRC, there are other individuals based in various institutions involved, as well as a significant research institution based in Cape Town, the DPRU. The relationship between the HSRC and DPRU based in Cape Town is a bit ambiguous. For example, some documents are at times listed as DPRU documents, and then the same report or working paper is listed elsewhere as an HSRC document[1].

While I was reading the documentation, I struggled to put the pieces together of how the emerging projects would form a skills planning mechanism. I had a few hunches on where I thought it was going and subsequently, engaged in conversations with people about what was becoming clear and what, no matter how much I read, was unclear.

During this time, I engaged with individuals who were involved in a wide range of projects and government processes that related in different ways to the emerging skills planning mechanism. All these conversations assisted me in coming to a decision to stop hoping for it all to fit together; it seemed at this stage that it may be difficult for it to fit together due to the nature of the mechanism still being in the emerging stages and thus, I started writing up my findings.

All the documents I have used came directly from LMIP website. I constantly monitored the website for new documents. These documents that I have chosen are the best summaries of projects I could find. I used the Reports as they were the few that were not in a draft phase and were the source of the research done in skills planning by the LMIP. I used the Policy Briefs as they were repeatedly used in policy round table discussions; they seemed to present the conceptual understanding and policy recommendations for skills planning. I used a project document, ministerial briefing and policy suggestions document to provide general overviews of projects. I did omit detailed explanations of some of the case studies as I looked more at the conceptual understanding of skills planning derived from these case studies than the actual case studies. I did not use the working papers as they were still in progress and had not reached their conclusion yet. The documents are listed below.

[1] Occupations in high demand, Department of Higher Education and Training, 2014

3.1.3.1 Reports

LMIP Report 1: Haroon Bhorat, Sumayya Gogo and Benjamin Stanwix (2014), Occupational Shifts and Shortages: Skills Challenges Facing the South African Economy

LMIP Report 2: Nhlanhla Bathe, Angelique Wildschut, Bongiwe Mncwango, Xolani Ngazimbi and Tembinkosi Twalo (2014), Towards Understanding the Distinctive Nature of Artisan Training: Implications for Skills Planning in South Africa

LMIP Report 3: Haroon Bhorat and Nan Tian (2014), Growth, Employment and Skills: The New Growth Path Revisited

LMIP Report 4; Glenda Kruss, Il-ham Petersen, Simon McGrath and Michael Gastrow (2014), Responding to shifting demand for skills: How do we get firms and post-school education and training organizations to work together

LMIP Report 5; Haroon Bhorat, Aalia Cassim and David Tseng (2014), Higher Education, Employment and Economic Growth: Exploring the Interactions

3.1.3.2 Policy Briefs

LMIP Policy Brief 1; Marcus Powell and Vijay Reddy (2014), Labour Market Intelligence Systems and Mechanism for Skills Planning: Lesson and Recommendations for South Africa

LMIP Policy Brief 2; Marcus Powell, Vijay Reddy and Andrew Patterson (2014), Approaches and methods for understanding what occupations are in high demand and recommendations for moving forward in South Africa

LMIP Policy Brief 3; Haroon Bhorat, Aalia Cassim and Morne Oosthuizen (2014), Occupational Shifts and Shortages: Facing the South African Economy

LMIP Policy Brief 4; Marcus Powell, Vijay Reddy and Andrew Patterson (2014), Indicators and Data to Support Skills Planning in South Africa

3.1.3.3 LMIP Update documents

LMIP Policy Suggestions May – October 2014.

LMIP Update 2014.

One project specific document was used.

DHET Skills Planning Tool, Achieving Evidence-Based Skills Planning with LM –EM, REAL Centre 2015

There are four additional projects (additional to the DHET research projects) that contribute to the skills planning. The first one I discovered in attending round tables of the LMIP project. This project intends to provide information on artisans in the country. I list it under the projects, as it should contribute to the emerging DHET skills planning mechanism. The document which I used for information about this project is:

National Artisan Development Centre, 2 August 2014, Artisan Learner Data Reporting, Validation and Database Maintenance Policy and Procedure

The second project is the Occupations in High Demand, which provides a list of occupations that fall in this category in South Africa. They are viewed as essential for the socio-economic growth of the country. For information on this project I used the document:

Government Gazette, No 38174, 4 November 2014. Occupations in High Demand 2014.

While conducting interviews with key officials in DHET, a third project, the EU) planning project, was mentioned. This project works with the EU, highlighting what was done in EU countries for skills planning. I interviewed a leader in project:

Member, Skills planning mechanism

The fourth related project, which I discovered in the preliminary discussions to investigate the different projects under the skills planning mechanism, is the Strategic Integrated Projects (SIPs). This is a presidential initiative to create infrastructure and jobs in South Africa. For this project I interviewed:

Deputy Director General for Special Projects, DHET.

The main document which I used for information about this project is:

Presentation made at an LMIP round table, SIPs Projects, May 2014

3.1.4 Category Three: Stakeholders

My intention in creating this category was to interview key government departments who had an investment in the emerging skills planning mechanism. One of the participants did not respond to my request for an interview, and another I later discovered was a leader of one of the overarching banner of several projects in the skills planning mechanism. I was able to conduct two interviews with two senior members of the Skills for the Economy unit based in the dti whose primary role is to ensure the skills priorities for the mandate of the dti are supported:

Chief Director: Skills for the economy, the dti

Deputy Director: Skills for the economy, the dti

The skills for the economy unit are focused on seeing that the skills needs are met for the dti plans and employers. The full interview questions for this category can be found in Appendix 4.

In sum, I interviewed nine people: four from DHET, three from projects supported by DHET, and two from the dti as a stakeholder. Where I conducted interviews, I also consulted one or two key documents associated with the project or processes. Where I was not able to conduct interviews (in one of the major group of projects, the LMIP project, as discussed above), I studied a range of documents, including reports, policy briefs, project documents, presentations and ministerial briefings.

In the presentation of my findings, I indicate in footnotes where data was obtained through interviews, documents, or both, and which document or interview I am referring to. The full interview list with associated number is in Appendix 5.

3.2 Conceptual framework

During the process of putting the proposal for this study together, I found it difficult to find a simple framework to analyse skills planning, its influencing factors, and the various components that are highlighted in the literature as essential to skills planning. I eventually created a framework with two parts. The first part of the framework connects to the underlying idea in this study that education systems do not function alone. There are factors that influence skills formation systems such as economic policies and education systems. In economic policies and education systems, a continuum between two extremes of free market model and central planning can be identified; most countries have different combinations of these extremes that are enacted in skills formation systems. The reason for this two part framework is that the influences of on a skills planning system can vary from context to context, while the second part which is the categorizations of the type of research in skills planning can occur in any context, what can be called in to question is the type of research and its effectiveness in each context. But for the purpose of this research it is easier to separate the framework into two parts.

In my literature review I present arguments around how economic policies influence the direction of an education system and how the state or market control can exert control over either. I presented government directed and market-controlled as two extremes of a possible system. I looked at the South African context and the influences in the economic policies and education system to outline the perceived influence on a mechanism that centralises skills planning.

Economic Policies and Education System

Market Controlled ⟷ Centrally Controlled

The South African context will be analysed through influencing factors on the skills formation system which will predominately be economic policies and education system.

My purpose in creating two extremes is to provide a basis for how people understand education systems and economic policies in the context of the interviews performed and the documents reviewed; in reality there are complex combinations of these two types of authority in any system as explained by Keating (2008) in Chapter 2: Literature Review.

The second part of this framework tries to place the projects which are contributing to the emerging DHET skills planning mechanism into categories. These categories reflect represent the different types of research that occur in skills planning. The categories are intended to help list various projects that are similar to each other and to see how they fit together to contribute to an emerging skills planning mechanism.

The four categories are derived from Wilson et al.(2004), who, as discussed in Chapter 2, suggest that skills planning can be categorized into:

1. Quantitative model based projects;
2. Sectoral studies;
3. Focus group and round tables;
4. Employer surveys.

In the process of writing up my findings, I realized that not all the projects fitted into these categories. On reviewing the categories, I recognized that this may be due to focus on the forecasting model of skills by Wilson et al. (2004) as opposed to the larger issue of skills planning which involves factors that influence skills planning. Therefore I created the following categories:

5. Skill planning projects that are concerned with types of data
   Skills planning often rests on the idea that certain types of data are needed in order to accurately determine skills needs. An example of this kind of data provides information such as indicators such as occupations that are in high demand on the Labour Market.
6. Projects and Research related to the context in South Africa in skills planning
   Most skills planning initiatives argue that you need to consider the environment; the argument is that the implementation of any model needs to take into consideration adaptions that work with the environment. There is an argument in the literature review that skills planning needs to have a clear understanding of its context. This section outlines all the research that was done in the context of South Africa.
7. Projects and Research influencing skills planning

> These projects are separate from the skills planning mechanism. There seemed to be a number of projects that influenced skills planning specifically in the South African context.

I was interested in understanding how the Department of Higher Education's (DHET) emerging skills planning mechanism will function, how the associated projects plan skills, and how all these projects fit together to create the skills planning mechanism.

Therefore, the data I collected through interviews and documents collection went through two analyses. The first part of the analysis produced a description of how the emerging skills planning mechanism will work and what is understood by this. I compared the information to other skills formation systems and their underlying philosophies providing a description of the emerging skills planning mechanism. The second part of the analysis describes the projects which are intended to contribute to the creation of a skills planning mechanism. I considered them in relation to the seven categories to describe skills planning. The two parts together will form a description of the emerging skills planning mechanism.

3.3 Limitations of this study

There were two limitations in this study.

Firstly, at the time of the research, many of the projects had not been completed. This meant that several of the documents used were still in draft phase. Therefore, my findings and analysis reflect what seems to be emerging in the system, rather than a conclusive set of findings about what exists and how it works.

Secondly, as a result of the emerging status of the skills planning mechanism, the HSRC, which was one of the research bodies heading up most of the projects, were not unavailable for interviews, on the grounds that the projects were still emerging and their research had not reached a conclusion. Upon reflection, the unavailability of interviews participants from the main project, the Labour Market Intelligence Project, was difficult as I had to sift through many documents instead of being able to engage with people and ask questions more in depth about aspects or information I did not understand. Given the complexity of the skills planning and the nuances in an environment, it was hard to get a sense of how all that was emerging under skills planning worked together from the documents.

3.4 Ethical considerations

Ethics clearance was obtained from the Education Ethics Committee, Protocol Number: 2014ECE028M.

I undertook not to use any individual's name in my Research Report. Rather, they are referred to by their position and organisation. Nonetheless, this is not a guarantee of anonymity or confidentiality as the research is about the projects they are working on, and individuals interviewed are key participants—project leaders, departmental leaders, and so on. Participants were therefore made aware before agreeing to participate that their identity will not be anonymous or confidential but I would not use their name, merely their title and organization name, and they signed consent forms.

In this chapter, I outlined the method I used to seek out information for this study and the process that I will use to categorize the data and try to understand how it will work together were discussed. The next chapter will outline the findings of this study.

Chapter Four: Findings

This chapter presents the main findings from the interviews and document analysis described above. The first section discusses how the skills planning mechanism is envisaged by the different groups of people associated with the mechanism. The second section categorizes the various projects currently underway, to understand their role in terms of an emerging skills planning mechanism.

4.1 What is understood by skills planning?

This section discusses how the skills planning mechanism is understood by the DHET, by stakeholders and projects emerging under the skills planning.

4.1.1 DHET

The information for this section was drawn from the following interviews and documents:

- Interview 1-4
- Address By Minister Of Higher Education And Training, Dr. Blade Nzimande At The Launch Of The Labour Market Intelligence Research Project HSRC Conference Centre, Pretoria 4th September 2012
- Address By Minister Of Higher Education And Training, Dr. Blade Nzimande At The Launch Of The Labour Market Intelligence Research Project HSRC Conference Centre, Pretoria 4th September 2012

The main expectation for DHET from the skills planning mechanism is an understanding of labour market demand signals in order to strategise the supply of skills. Recently, development state discourse has become popular in skills and government planning in South Africa. This comes across strongly in the interviews with DHET. An example of embracing a development state approach is the SIPs. These SIPs will be discussed further in the second section, but these projects are a state intervention to improve infrastructure and opportunities to develop skills while also creating employment. Despite this development state approach, the majority of interviewees discussed developing skills for the economy by listening to labour market signals. A development state is mostly developing skills for the economy but the nuance is the state intervenes in the economy in specific ways to develop certain industries for growth. The development state emphasis can be seen in the Minister' speech at the opening of the Labour

Market Intelligence Partnership[2] which highlights the expectation of the skills planning mechanism:

> The establishment of functional interface that will ensure better information gathering, analysis and overall systems synergy in pursuit of a skills development is developmental, forward looking and embedded in empirical analysis of system challenges and opportunities. It will provide information crucial to all our post school systems and all sections of labor market itself.

The minister and Interviewee 4 speak about the skills planning mechanism having a developmental state approach.

What emerged in the interviews with the DHET officials and the speech from the Minister at the opening of the LMIP project is that there are two things that are essential outputs from the skills planning mechanism. Firstly, within skills planning there needs to be an understanding of supply and demand of skills. Secondly, in understanding supply and demand for skills, there needs to be a resulting strategy that involves research and analysis of data to address the imbalances. It is perceived that both of these outputs are seen to be driven by kinds of data called indicators. Indicators are perceived to provide information required for skills planning. Three out of four officials suggested that these indicators were provided by the market, which controls and signals skills demand and therefore, it is necessary for supply of skills to be aligned to these indicators. The way in which supply of skills responds to these indicators is in the form of bursaries, training or a qualification that still needs to be developed.

There are variations on how to go about understanding skills demand and supply. Interviewee 1 posed that what is important is the structural arrangement for skills planning. The structural arrangement involved identifying all the key role players and stakeholders who have access to information and collect information that is necessary for skills planning to ensure that DHET has the full set of information when planning for supply of skills. Interviewee 2 suggested that coordination of skills planning issues across the different components of the sector was important; these components would be employers' organizations and education. The suggestion would be that interdepartmental committees and structures that include these components would direct skills planning, and the coordination of these committees would be done by the SETAs. Interviewee 3 and 4 suggested when trying to understand demand for skills, the skills need to be linked to the occupation, such as the occupations listed in the OFO. Interviewee 4 argued that in skills planning it is essential to use the language of occupations (such as the OFO)

[2] Address By Minister Of Higher Education And Training, Dr. Blade Nzimande At The Launch Of The Labour Market Intelligence Research Project HSRC Conference Centre, Pretoria 4th September 2012, Pg. 4

as it the language of labour market and an occupation also gives the learner an identity. Regarding how the skills planning mechanism will work, the skills planning mechanism is viewed by three of the four department officials as relationships between interacting components of various planning tools and methodologies. However, there is not much direction in how these relationships and how the mechanism will work to enable skills planning. An example of this is Interviewee 4's comment on the skills planning mechanism:

> You are not going to find a grand plan but there is an energy that is going in the right direction, there are lots of synergies that are starting to emerge.

Interviewee 2 highlighted that the mechanism has both quantitative and qualitative elements; the qualitative is the stakeholder engagement and the quantitative is the econometric modeling projects. Therefore the functioning of the mechanism would be the relationship between quantitative and qualitative elements.

4.1.2 the dti as a stakeholder

The information for this section was drawn from the following interviews and documents:

- Interview 5 & 6

The skills planning mechanism in the view of the dti interviewee needs to better understand the information involved in government plans and employer demands. Therefore understanding of economic policies and education systems are a combination of central control and market control. However, it seems that the dti's primary interest in the skills planning mechanism is to assist with the demands on their Department and associated employer organizations for skills development.

the dti meets with industry to understand skills needs and then meets with DHET for the technical implementation for developing these skills. There is currently a quarterly forum where education delivery partners can report on progress on skills inputs and outputs for the dti. The dti does research on skills needs and meets with colleges and universities to strategise supply industry needs.

The dti observes that DHET does not always understand properly what needs are on the economic side due to the shift in economic structure. Within the difficulties of the mixed economy, the skills planning mechanism needs to structure the supply side of education to meet

the workforce needs. The tools that need to work for the dti are the Workplace Skills Plan[3] and Sector Skills Plan[4]. The Sector Skills Plan is likened to a Christmas wish list, which never seems to be realistic. There are no incentives for the mandatory grant for Workplace Skills Plan and now incentives have been reduced. For this stakeholder organization, skills planning needs to involve translating economic plans and employer plans into plans for education supply to meet the skills demands of these plans. Therefore, the dti and DHET are engaging with government organizations, employers, and education to understand how to move forward to enable these plans.

The expectation of the dti for skills planning under DHET is to enable post school institutions to address the need for the right kind of training and graduates that will be needed in DTI projects and information on the skills gap and skills mismatch that needs to be resolved, and provide direction for funds and bursaries. Interviewee 6 suggested that the information for projections of skills needed in the development of artisans in the skills planning mechanism needs to be more clearly defined information such as welders, plumber, etc.

4.1.3 Across the DHET supported projects what is understood by skills planning from the Labour Market Intelligence Project (LMIP)?

The information for this section is derived from the following documents:

- Dr. Olive Shisana, HSRC Director speech at the launch of the LMIP, 4 September 2012
- LMIP Update 2014 – Contours of Skills Planning Mechanism
- LMIP Briefing to the Minister of Department of Higher Education and Training , 9 October 2014
- The Labour Market Intelligence Partnership as the basis for excellence in education and skills and a growing economy for all Dr. Olive Shisana. 4 September 2012 HSRC Building, Pretoria.
- LMIP Briefing to the Minister Of The Department Of Higher Education And Training by the HSRC, 9 October 2014.Pg 4

The skills planning mechanism by the LMIP is considered to have a developmental state approach, however development states as highlighted in the literature can have complex combinations of both market and state involvement in their skills formation system. I wanted to

[3] Workplace skills plan is provided by employer organisations and states their current skills and skills training gaps with training plans on how to address these skills gap.
[4] Sector skills plans are done by the SETAs and provide an overview of the skills, skills needs and shortages for a sector.

present here two excerpts and an explanation of the model proposed that lead me to believe the projects under the skills planning mechanism are trying to include the development state approach, but was more market led.

A presentation by Dr. Olive Shisana, LMIP Update 2014 and LMIP briefing to the minister all indicate that the model proposes to use a developmental state model or an integrated economic approach.

Dr. Olive Shisana, HSRC Director, in her speech at the launch of the LMIP[5], said:

> The LMIP has committed to the producing the following broad deliverables:
>
> - High quality science leading to information, knowledge and appropriate labour market intelligence
> - Translation of information and knowledge to relevant and appropriate training labour market and employment policies and programmes.
> - Grow the community of researchers in area

The speech draws attention to the success of many countries in East Asia whose recipe to overcome economic challenges highlight "requirements of hard work, institutions support and planning as crucial ingredients in the economic recipe"[6]. She cites the economic success of countries like South Korea, Singapore, Malaysia, Taiwan and now China whose success was observed in "very long period of hard work, careful long term planning and institutional support systems for private businesses whether large or small"[7].

The development state approach and integrated economic approach is proposed by the LMIP for skills planning from the HSRC. This approach encompasses:

- Improving levels of education and training for population
- Improving workplace skills planning training
- Emphasizes a demand driven approach to planning in which strategies are aligned to industrial development and growth strategies.

As discussed in the literature, the developmental state has been drawn from observing and analyzing East Asian countries and it is seen to have a strong element of the state leading the economic policy which is closely aligned to skills development. However, in LMIP Update 2014

[5] The Labour Market Intelligence Partnership as the basis for excellence in education and skills and a growing economy for all Dr Olive Shisana. 4 September 2012 HSRC Building, Pretoria. Pg 3
[6] The Labour Market Intelligence Partnership as the basis for excellence in education and skills and a growing economy for all Dr Olive Shisana. 4 September 2012 HSRC Building, Pretoria. Pg 5
[7] The Labour Market Intelligence Partnership as the basis for excellence in education and skills and a growing economy for all Dr Olive Shisana. 4 September 2012 HSRC Building, Pretoria. Pg 5

where the theoretical model for skills planning is presented, the LMIP states that the project focuses on skills for the economy, which is similar to a development state, but most of the information/data required for skills planning (which will be shown in the next section) falls under the signals from the market which can be perceived as more market controlled than a development state approach.

The LMIP Update 2014 document states that the model will provide four outputs. Firstly, it will provide an understanding of supply and demand for intermediate and professional level skills. Secondly, it will provide credible information for government to direct resources. Thirdly, it will provide support for government economic strategy. Fourthly, it will improve South Africa's competitiveness and improve social cohesiveness by contributing to poverty alleviation. This will be achieved by a more coordinated approach, one that involves key partners involved in supply and demand, and necessary dialogue between departments responsible for economic development, trade and industry, and education and training to ensure skills needs are translated.

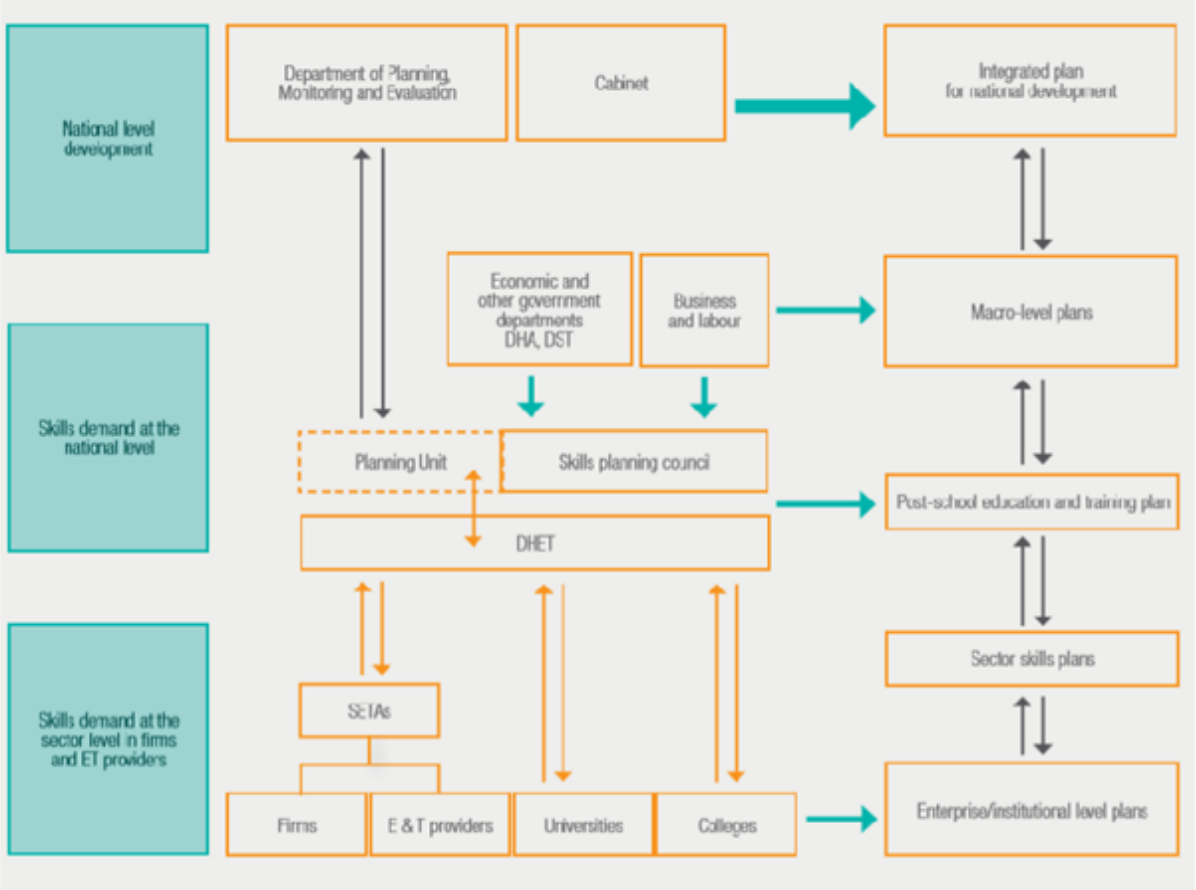


Figure 1 – Processes for making decisions for skills planning
(Source: LMIP Update 2014, HSRC, p. 8)

Figure 1 visually captures the main proposal made by the LMIP for a model by which skills planning can occur, it outlines relationships between components and the types of relationships and information flows that are envisaged. The proposal is a top down and bottom up approach to the skills planning process. The top of this planning mechanism will be the National Planning Commission and the Cabinet. The National Planning Commission has produced the National Development plan and it can be expected that the Planning Commission though the Department of Planning, Monitoring and Evaluation could be responsible for developing a more coordinated or joined up thinking among government departments. It is interesting to note that the Human Resources Development Council, who sets the strategies for Human Resource Development in the country, is not mentioned in Figure 1.

At a national level, the Planning Unit based in DHET with the Skills Planning Council, which is a new body proposed in this model, will play an important role around tracking major changes implemented by other government departments, as well as other changes in the economy and identifying implications for skills development. The core of the skills planning process will

continue to be focused in the SETAs with the universities and technical vocational education colleges focused on managing supply for skills demand at the sector level, which is the way the system functions now.

The success of skills planning will depend on its ability to match supply and demand of skills. The LMIP recommends that the proposed Skills Planning Unit would prepare a scarce skills report with shortages for short-, medium- and long-term identified. This report would be the basis for Department of Home Affairs' list of occupations informing the identification of foreign visas, as well as DHET's lists of which education and training programs are prioritized to provide direction to student study choices.

I was unclear, after studying the documents, how the research done LMIP reports 1-5 and the recommendations in Policy Briefs relate back to Figure 1 and its implied decision making model. It is also unclear how exactly this decision-making process will work in practice in making decisions about skills planning. The main idea for skills planning in this model could be perceived as the importance of bodies of stakeholders and planning councils being empowered to make decision for what skills are needed. Therefore, skills planning in this model would be in the decision making abilities of these bodies.

It could be perceived that the HRSC in the LMIP views skills planning as more controlled by the market, because even though there are aspects that try and integrate government plans in Figure 1, the main emphasis is on interpreting signals that are coming from the labour market. As a result, it can be deduced that the suggestion is that economic policies and education systems are more market controlled than centrally controlled by government.

4.1.3.1 Who should be responsible for skills planning?

The information for this section is derived from the following documents

- LMIP Update 2014 – Contours of Skills Planning Mechanism
- LMIP Briefing to the Minister of the Department Of Higher Education and Training by HSRC, 9 October 2014

The White Paper for Post School Education and Training proposes a Centralised Skills Planning Unit. The LMIP proposes that it be called Centralised Skills Planning and Intelligence Unit, hereafter referred as the Central Skills Planning Unit, will responsible for implementing the decision-making process shown in Figure 1. The core roles of the Central Skill Planning Unit are to understand supply and demand of skills through supporting the Figure 1 decision-making

process, then enable skills development. They would be the critical authority to develop synergies between government departments for decisions for skills planning. The Central Skills Planning Unit (CSPIU) will have to be politically strong due to the cross department nature in order to implement strategies and further, the DHET should have appropriate capacity to ensure data collection and analysis is done effectively and efficiently. The LMIP suggests DHET drives this skills planning and CSPIU is located in DHET. DHET staff would need to have expertise in labour market economics and skills planning expertise and experience. The LMIP under the HSRC suggest it is the responsibility of this Central Skills Planning unit to create the lists for short, medium and long terms skills.

4.2 An overview of the projects and research emerging under of the skills planning mechanism

This section will present brief explanations of the projects and research that have been emerging under the skills planning mechanism. As mentioned earlier, this information was gathered through attending policy roundtables, information gathering conversations, interviews and the Labour Market Intelligence Partnership (LMIP) website. In order to make sense and provide an understanding of these projects and research, I have categorised them under the seven categories as discussed in Chapter 3: Methodology, using four categories from Wilson et al. (2004) and three categories I developed.

There is an important point to make at the beginning of my findings: the projects were all emerging under the skills planning mechanism at the time of this report. There was no initial plan on how these projects would work together. However, there was a process to identify what should be in a skills planning mechanism and then projects were initiated. The part that seems to be lacking is how these projects would work together.

4.2.1 Quantitative Based Projects - ADRS Linked Macro- Education Model (LM _EM)

Wilson et al's. (2004) first category is quantitative based projects. The ADRS/REAL Linked Macro – Education Model fits into this category: it is a multi-sectoral econometric model which provides a model for the demand and supply of skill. It is the only project I found that fits this category

The information for this section is derived from the following documents

- This information is drawn from Interview 6
- DHET Skills Planning Tool, Achieving Evidence-Based Skills Planning with LM –EM, REAL Centre 2015

The purpose of this model is to capture the relationships between economy and education. It is a way to quantitatively map and have foresight into possibilities for supply and demand in the education sector that informed and measured by the economy.

The model uses data from the Reserve Bank starting from 1970s. This time series data is taken from the National Income Account, Statistics South Africa sectoral data, Labour Force Survey 2009 – 2011, and using integrated Census 2012 and 2013 to provide population prediction. The National Income Account, Reserve Bank and sectoral data are compared to check the validity of the data. Statistics South Africa cleans up the data before it is inputted into the model.

Skills planning in this model is based on a disaggregated view of the economy and education that is provided in 45 sectors of which 41 are specific and 4 are aggregated total. This means that the model in each sector is intended to project occupational demand and qualifications within the context of skill supply and demand.

The key intended outputs of this model are foresight where the economy is going, with different scenarios in the economy in terms of skills demand and supply. The projections are based on the statistical relationship between all the elements outlined in Figure 2 below. The demand side of skill is projected given the current economic context or a given scenario which is linked to occupations on the Organising Framework of Occupations. This prediction of required occupations is linked to the education side or skills supply side which simultaneously provides projections for supply to meet the skills demand and is also linked to the occupations in the Organising Framework for Occupations. Projections are intended to be used in policy recommendations to enable the creation of employment in the economy and what is required in the education sector to enable job seekers to have the type of skills that will be needed in the economy. The model is intended to be used as a forecasting tool for decision-making in strategic skills planning. It is intended to enable the user to create economic and education policy scenarios, quantify indicators, and demand for and supply of occupations and educational qualifications.

Figure 2 outlines the elements for modeling demand and supply in the ADRS/REAL Linked Macro-Education Model[8]

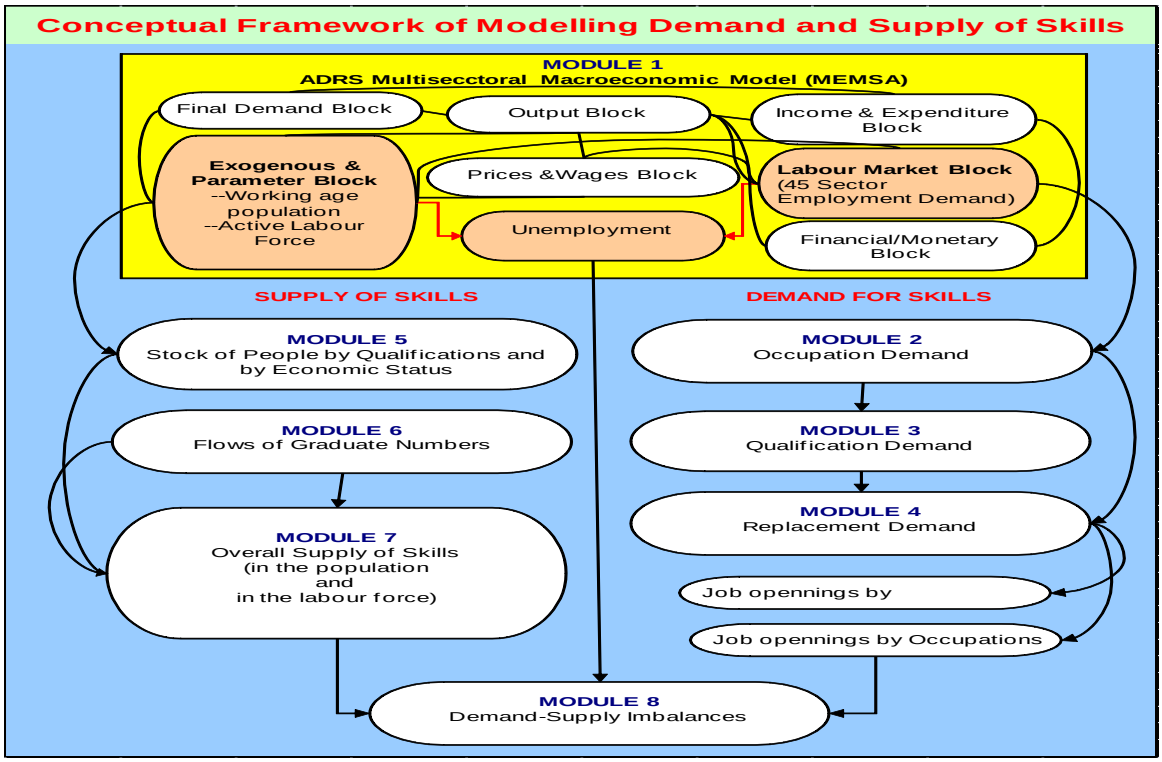


Figure 2. Conceptual framework of modeling demand and supply of skills
(Asghar Adelzadeh. ADRS unpublished memo. 2014)

4.2.2 Sectoral studies – Case Studies

The second category derived from Wilson et al. (2004) is sectoral studies, which means studies of sector actors, potential problems, and how these actors and problems impact the sector and subsequently, skills formation. These studies are intended to provide a nuanced understanding of skills in a sector and how firms function with a skills development system in a sector. Under the LMIP, three industries were studied in order to investigate how their sector skills formation systems worked with industry and post school education and training institutions. These case studies fall under sector studies category.

The information for this section was derived from:

- LMIP Report 4; Glenda Kruss, Il-ham Petersen, Simon McGrath and Michael Gastrow (2014), Responding to shifting demand for skills: How do we get firms and post-school education and training organizations to work together

[8]Forecasting Demand for and Supply of Skills:

Three in-depth case studies were done under the broader HSRC LMIP project. They were intended to provide a systematic analysis of capability building in a sectoral system of innovation that is bound to a region. More simply put, they were case studies of sectors that tried to understand skills development systems in a type of industry in a region. The networks, actors, and interrelationships that existed within the industry were mapped. The different sectors and industries studied were: the primary sector, the agro-processing sugar industry in KwaZulu-Natal; in the secondary sector, the automotive component manufactures in the Eastern Cape; and in the high technology sector, the astronomy and the Square Kilometer Array (SKA) in the National/Western Cape. These case studies provided insights into how these specific industries worked to ensure the provision of skills that was needed by their industries. The sector case studies study provided insights into how industries can meet the demand of skills through supply in education, it reflects on skills planning on a smaller level in an industry.

4.2.3 Focus groups and round tables

The information derived from this section is:

- LMIP Report 4; Glenda Kruss, Il-ham Petersen, Simon McGrath and Michael Gastrow (2014), Responding to shifting demand for skills: How do we get firms and post-school education and training organizations to work together

Wilson et al.'s (2004) third category involves case studies and detailed interviews with stakeholders and employers, to obtain qualitative information regarding the human aspect of skills needs. Through the course of my research there were several round tables organized by the HSRC under the emerging skills planning mechanism. At these round tables, there were presentations and discussions of projects under the skills planning mechanism and discussions with stakeholders. As most of the round tables were discussions about projects and ongoing research, it was difficult to categorise one project into this category. I am also unclear about the occurrence of focus groups, under which context they occurred and what their subsequent output in skills planning was. Therefore, this section has no projects and research under it as I could not find either that cleanly fitted into this category.

4.2.4 Employers surveys –SETA Firm Survey

Wilson et al.'s (2004) fourth category involves surveys that assess the current skills gap in the workplace. The surveys are meant to provide figures for immediate skills gaps. I categorised the current labour market surveys done by the SETAs--the Workplace Skills Plan and the Sector

Skills Plans—in this category. One forthcoming project investigates how to improve the firm survey in South Africa, this is the SETA Firm Survey. This is the only project in this category.

The information for this section was derived from:

- Interviewee 3.

According to Interviewee 3, a project intended to improve the SETA Firm Survey is under way. This project is part of the HSRC LMIP project. I categorized this as an Employer Survey as the project focuses around improving the SETA firm survey, this survey tries to gather information regarding skills and training plans from employer organizations/firms.

The project seeks to improve the firm surveys conducted by SETAs. The underlying assumption in this project is that the way in which the current Workplace Skills Plans, which is the equivalent of a firm survey, the way the survey is currently structured does not elicit the kind of information needed for the strategic planning in skills development. The project is based on the idea, that in order to gather the kind of information needed for skills planning, the firm survey needs to be changed. The information gathered from this survey provides policy advice and recommendations for developing skills. The project examined the questions in the firm survey and how the information is gathered. The researchers reviewed the firm survey and considered how SETAs use this survey, with this information they suggested changes to the survey and how it could be implemented.

The outputs of improving the firm survey would be aimed at providing more accurate information that would be drawn from Workplace Skills Plan and Annual Training Report in order to investigate what skills are being reported as needed by employers and to strategise the education interventions that are needed to fill this skills gap.

The projects that have been drawn out from the emerging South African skills planning mechanism that have fallen under Wilson et al.'s categories are seeming more focused on skills forecasting and how skills supply and demand work together in certain industries. In this section, I have used the four Wilson et al.'s (2004) categories for the first four sections to categorize projects. In the following three sections, I will use the three categories I have developed to categorize the rest of the projects.

4.2.5 Skills planning projects concerned with kinds of data

This category is trying to group projects that have a focus on gaining the most accurate data in order to conduct skills planning. These projects seem to be concerned with the types of data and

its validity as needed in skills planning. The projects seem to use both qualitative and quantitative methods. I placed 5 projects in this category.

4.2.5.1. Key Indicators of Skills Planning

The information for this section was derived from:

- LMIP Policy Suggestions, HSRC. September 2014
- Lizzy Mabotja (2013) Using the Delphi Method to Select Key Indicators for Skills Planning. LMIP Working

This project under the HSRC LMIP was intended to enable skills planners to understand the labour market, through indicators that identify and monitor the conditions of the market. Indicators specifically look to anticipate, reveal, or diagnose changing conditions in the labour market. This project is focused on the supply-demand nexus which is believed to generate a mismatch between workers, work seekers and jobs

This project is to identify the indicators of the labour market, they used the Delphi method to gather information and set up indicators. This project uses the Delphi method to obtain information The Delphi method is based on participant responses that occur in two or more rounds to a set of questions that directly address pre-determined issues. The Delphi method emphasizes accurate and focused questions. This model contains indicators for five essential areas: supply, current demand, future demand projections matching and contextual intelligence.

Here are examples of the type of indicators relevant to skills planning[9]:

- Supply e.g. enrolment and graduation rates from post-school education and training institutions
- Current demand e.g. hard-to fill vacancies
- Future demand e.g. anticipated changes in occupational demand
- Matching e.g. placement of pre-graduates by enterprises
- Contextual intelligence e.g. skills in demand in the global labour market and other indicators that provide contextual understanding.

4.2.5.2. Labour Market Intelligence System

The information for this section was derived from:

[9]LMIP Policy Suggestions, HSRC. September 2014. p7.

- Creating a credible institutional mechanism for skills planning in South Africa, LMIP briefing note. HSRC. 2015 Outcome 5.1.1... 'to develop a credible institutional mechanism for skills planning' LMIP presentation to Minister Nzimande, DHET. HSRC. 9 October 2014

This project is under the HSRC LMIP and is focused on data that needs to be gathered, analyzed and the types of labour market intelligence that is necessary for skills planning.

The data in this system is intended to include skills supply, skills demand, workplace skills and vacancies, trends in the economy (both private and government initiatives) and trade and investment strategies. The government and its partners are intended to use the Labour Market Intelligence System for South Africa to align industrial strategies and skills development strategies.

In the Key Indicators for Skills Planning project, there was data collected on the context, skills supply, current and future demand, occupations in demand and the education and training outcomes of planning processes and it would seem that the Labour Market Intelligence System is intended to place all those indicators into a system of information that is necessary for skills planning. It also needs to be noted that the data for skills planning will be organised in indicators that need to be analysed by the Central Skills Planning unit.

This project is to establish a foundation for the labour market information systems. Therefore labour demand is derived from all firms currently operating and the collection of all the employment requirements currently from firms. The labour supply is determined by the total number of people, with different levels of skills and education, who are willing to work for a wage that the market is offering. This project analysed data that was already available in the South African context for supply, current demand and future demand.

4.2.5.3 National Artisan Development Support Center (NADSC)

The information for this section was derived from:

- Artisan Learner Data Reporting, Validation and Database Maintenance Policy and Procedure. National Artisan Development Support Center (NADSC). DHET 2 August 2014

This project is categorized under data required for skills planning as it aims to provide detailed data for artisans that would be needed to strategise supply and demand of artisan skills. This center is under the DHET. This center was developed in collaboration with DHET Director:

Information System Coordination to develop a comprehensive artisan database that will form an integral part of the labour market intelligence skills planning process.

The report that the center is intended to produce should provide an annual basis audit on the artisan targets and provide information for analysis to strategise for the meeting of artisan skills needs. The intention of the center is to provide information that is seen as vital in the skills planning and development. The center collects data from all SETAs regarding all artisans in the systems; it also collates and quality assures this data. The information in this artisan database will include the study field, occupation and date completed for qualified artisans.

4.2.5.4 Audit of Administrative Datasets

The information for this section was derived from:

- LMIP Update 2014 – Contours of Skills Planning Mechanism

The LMIP conducted high level strategic audit of administrative databases across all government departments and aimed to identify relevant and quality datasets that can be coordinated into a database system to support labour market intelligence and analysis. I am unclear of what a high level strategic audit is, the paper explaining this was not published at the time of my study. The audit also involves identification of technical platforms and data formats for interfacing and facilitating data exchange. Databases were characterized in four ways:

- Relevant and immediately usable datasets, such as Quarterly Labour Force survey, Quarterly Employment Survey and General Household survey from stats SA,
- Highly relevant and the preparation of datasets, such as the Unemployment Insurance Fund database from Department of Labour,
- Datasets which contain relevant variables that are currently undergoing validation and cleaning before used, such as the population register in Department of Home Affairs,
- The development of a new farmer database in Department of Agriculture Fisheries and Forester.

One of the LMIP suggestions is to advise DHET to actively work to enhance the development and sharing of datasets across government departments as an integrated view of government departments is vital to skills planning. This project identifies the need to clean and investigate the validity of data before it goes into any system and attempts to do both. At the time of this research, the paper for how this was done was not published and therefore, it was not clear how

valid data would be collected or necessary datasets would be created will be and how it will continue to be updated, as it seems that data maintenance is an ongoing concern.

4.2.5.5. Data for occupations in high demand

The information is derived from:

- LMIP Policy Brief 2; Marcus Powell, Vijay Reddy and Andrew Patterson (2014), Approaches and methods for understanding what occupations are in high demand and recommendations for moving forward in South Africa

In this Policy Brief, the LMIP proposes a more systematic approach to skills planning by outlining a method for the understanding behind a list for occupations in high demand, which is similar to a scarce skills list in the South African context. Figure 3 below outlines the main phases involved in the collection and analysis of data to produce a list of occupations that are in high demand; the phases will be explained in further detail in the following text.

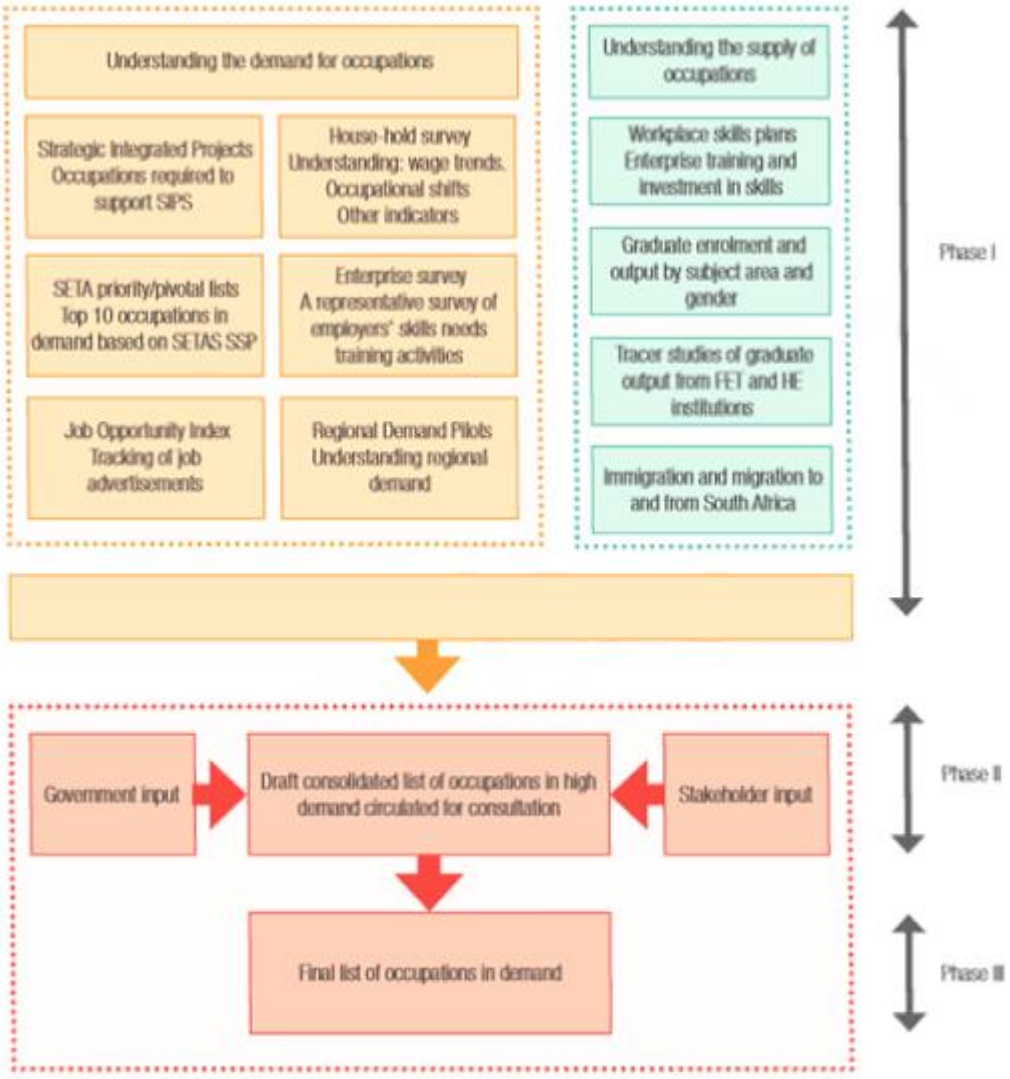


Figure 3 Phases in the collection and analysis of data to produce a list of occupations in high demand.
(Source: LMIP Policy Brief 2, HSRC, p.13)

In phase one of this process for creating a list for high demand occupations, the data is collected on the Strategic Integrated Projects and governments skills – biased strategy projects. Household surveys and global skills in demand provide data that is already available. However, the LMIP suggests that a new format for Household Survey would need to be agreed with StatsSA. The suggested changes to the Household Survey would involve an emphasis in South Africa on the skills development at a national level. This new approach in the Household survey will provide a means for regional and provincial dimensions to be captured in scarce skills list. It is unclear at the time of the research what exactly these changes would be in the Household Survey. Other sources of information would be SETA recommendations on their 10 PIVOTAL[10] skills areas

10 PIVOTAL is an acronym for Professional, Vocational, Technical and Academic Learning programmes leading to qualifications or part qualifications. Pivotal skills are seen as priority skills needs in the South African context

though the Workplace Skills Plans where employers identify skills needs in their organisations, and the Job opportunity index constructed by Department of Labour information on skills in demand. The supply of information would also involve Workplace Skills Plans' that will identify employer commitment to training and the degree to which employers supporting development of high skills. It is suggested by the LMIP that, in the supply of skills, the information on enrolment and graduation rates in the post school data should have race and gender of learners. It is also suggested by the LMIP that skills providers need to undertake tracer studies of their graduates, as this will assist in providing intelligence on labour market responsiveness to academic and training programmes. Another source of supply of skills is the number of people emigrating from South Africa, which provides an estimation of skills flight. The understanding of the demand and supply of skills will produce draft lists of occupations in demand temporarily and in the long term. Therefore, it could be deducted that this list is skills planning.

In the phase two, the draft list of the occupations in high demand is circulated to employers, SETAs, and other stakeholders for consultation to comment on the validity of the list.

Phase three entails the confirmation of occupations in high demand, both immediate and short term. The Skills Planning unit[11] would finalise this list and include the views of representatives from employers, professional groups, trade unions and key government departments.

The analysis and calculations are intended to identify occupations in high demand in order to differentiate the temporary and longer term in skills demand. The types of calculation will involve producing a number of indicators that will understand the changing nature of demand of occupation over the short- and medium-term period.

In setting out the lists needed for skills planning, the LMIP in this policy brief sets out definitions that frame skills planning. They are very similar to the definitions set out by Shah & Burke (2003) and Richardson (2007) in the Chapter 2 in the section covering definitions and methods for skills planning. Scarce skill is defined by demand for specific occupations that outstrips the supply for occupation at a specified price. An absolute scarce skill is where a suitably qualified person is not available. A relative scarce skill refers to situation where a suitably qualified worker is available but does not meet the criteria due to geographic location. A critical skill is when demand for skill occurs in internal labour markets for firms and is concerned with competencies of worker due to recent changes global skills needs where employers globally are struggling to find skills. Therefore, in the South African context, the LMIP suggests that these

[11] The role of this unit was discussed in section 1 of this chapter under the title – Who is responsible for skills planning?

definitions guide skills planning and that when occupations in high demand are drafted that they consider the definitions of scarce skills, relative scarce skill and critical scarce skills.

4.2.6 Projects and Research relating to the context in South Africa for skills planning

The sixth category that I developed relates to projects and research intended to give a more clearer understanding of the various situations and factors that occurred historically and in present day South African environment that influence skills planning processes. I placed 5 projects in this category.

The contextual research can be valuable as it provides insight into skills planning and the not readily evident factors that can be very influential. What still remains unclear is how this kind of contextual research influences skills planning and what its role would be in a skills planning mechanism.

4.2.6.1 South African Social Attitudes survey

The information is derived from:

- LMIP Policy suggestions October 2014
- HSRC Social Attitudes Survey, HSRC website and LMIP Policy Suggestions, May, June and July 2014

This project is part of the HSRC LMIP project. It looked at the role of attitudes shaping individual behaviours and labour market outcomes. It is intended to assist skills planners in understanding public attitudes or perceptions of opportunities and constraints within the labour market, it can assist providing insight into the expectations and aspirations of surrounding people who are participating in the labour market. The HSRC has performed a South African Social Survey annually since 2003. It is a national survey. It explains the interaction between South Africa's changing institutions, its political and economic structure and attitudes, beliefs, and behaviour patterns of its people. However, in 2013, in the context of the LMIP project, the HSRC linked this work explicitly to the other work it is doing through the LMIP, such as aspects of the survey tried to understand the diverse public perceptions of prospects in the labour market for the HSRC under the LMIP. The survey had questions added to it to understand the labour market. The survey assists skills planners on the more human aspects through four key findings on the nature of unemployment. Firstly, that education remains very important in the labour market; this means that most people felt that unemployment was due to the poor quality of the education in South Africa. Secondly, that most people use social networks to find

employment highlighting that the formal structures of job seeking are not efficient, particularly for segments of the population that are low skilled or lack formal qualifications. Thirdly, employed youth are positive about employment prospects in relation to the qualification level completed which means that youth felt that better employment opportunities were directly linked to the achievement of higher qualifications, but this positive attitude towards employment prospects drastically dropped in young people in their mid-20s. Fourthly, there are layers of disadvantages and there need to be more targeted policies for the most vulnerable of the groups in our society with differing solutions for unemployment by age, race, education and gender, as each group is searching for work or engaging in further education to improve employment prospects.

4.2.6.2 Occupational Shifts and Shortages

The information for this section is derived from:

- Haroon Bhorat, Sumayya Gogo and Benjamin Stanwix (2014), Occupational Shifts and Shortages: Skills Challenges Facing the South African Economy

This research report is part of the HSRC LMIP. The report examines the nature of employment growth and its effect on wages.

The report uses the October Household Survey's information which was conducted in South Africa and Household Survey dataset for labour market information between 1994 -1999 which was replaced in 2000 by the biannual Labour Force survey which was then replaced by the Quarterly Labour force survey in 2008.

The key finding is that global competition, increasing capital and changes in technology together with structural changes in the South African economy favour high skilled labourers in the tertiary sectors which has resulted in the loss of primary sector jobs. This favouring of high skilled labourers on the current growth path causes furthers mismatches in skill demand and supply, which reproduce inequality as lower skilled labourers struggle with unemployment. In order to address unemployment, there needs to be a refocusing of a growth trajectory towards activities and sectors that demand lower skilled labourers. Employment and wages are under pressure in low skilled labour where work consists of routine tasks. A range of policies is required to support job creation and focus on improving training in lower and middle tier occupations to coping with competitive and technological pressures.

4.2.6.3 Understanding the nature of artisan training

The information for this section is derived from:

- Nhlanhla Mbatha, Angelique Wildschut, Bongiwe Mncwango, Xolani Ngazimbi and Tembinkosi Twalo (2014), Towards Understanding the Distinctive Nature of Artisan Training : Implications for skills Planning in South

This research report is part of the HSRC LMIP. The report intends to show the changing occupation milieu (a person's social environment) and identities in artisan training. The information is relevant for understanding the nature of employers and the negative context of artisanal occupations when trying to provide an environment that encourages growth of this kind of occupations.

The report looks at artisanal technical training from the 17th century to 1994. By looking at the history of artisans in South Africa, it shows discourse, around apprenticeships and the embedded inequality and racial discourses in the process of skills development for artisans. The next section discusses the structural change in the economy due to liberalization and the subsequent changes in demand for skills, specifically, a decrease in the demand for artisans. The context for training artisans needs to take into consideration what sectors are going through and which sectors will be encouraged to grow to provide opportunities for future artisans. The report suggests the need for credible sets to provide information on artisanal qualifications, occupation groups, and status of artisans in future datasets that are linked to Labour Force Survey. It needs to be noted separately here that the creation of a credible artisan dataset is already in motion in the National Artisan Development Support Center.

4.2.6.4 Review of New Growth Plan (NGP)

The information for this section is derived from:

- Haroon Bhorat and Nan Tian (2014) , Growth, Employment and Skills: The New Growth Path Revisited

This research report is part of the HSRC LMIP. The report looks at the NGP framework which seeks to address persistent high levels of unemployment. The report has two objectives. Firstly, the report tries to assess and understand the output growth implications and job creation targets set in NGP. Secondly, the report attempts to look at the skills implications of the employment targets in job drivers in the NGP. The paper suggests that unless there is a structural transformation from a tertiary (e.g. financial services) to a secondary (e.g. manufacturing) sector-

focused economy, the NGP targets will not be reached and there will be severe skills shortages in the economy.

It could be argued that an understanding of what went wrong in the NGP is essential in future planning for skills development, as it highlights that South Africa does not have the kind of economic policy that would support the NGP's job targets. This report seems to call into question the use of the NGP as a tool for strategizing in skills planning.

4.2.6.5 Interaction between Higher Education, Employment and Economic Growth

The information for this section is derived:

- Haroon Bhorat, Aalia Cassim and David Tseng (2014), Higher Education, Employment and Economic Growth: Exploring the Interactions

This research report is part of the HSRC LMIP. The purpose of the report is to investigate the impact and nature of South Africa's post-apartheid economic growth performance through the lens of human capital investment with a particular emphasis on higher education. The report used Household Survey data and Labour Force Survey data.

This report investigates the link between education and economic growth in three ways. The first part of the report examines the labour market trends including occupational demand by education. The second part of the research focused on the extent which educational attainments of labour cohorts affect the nature and trajectory of post-apartheid economic growth in South Africa by using econometric equations. The third part plots the welfare gains by the degree cohort to identify the impact of economic growth.

The results of this analysis show that the degree cohort contributes to economic growth and also shares in economic growth gains with steady employment demand. In contrast other post school qualification (such as diplomas and higher certificates) does not productively contribute to economic growth. College graduates are more likely to be unemployed longer without higher education and the welfare gains of this cohort are marginal. This conclusion of the research is that the degree cohort is most likely to earn higher salaries and gain employment in South Africa versus other qualifications.

4.2.7 Projects and Research influencing the skills planning mechanism

The seventh category that I developed contains the various projects and research that influence the broader skills planning area, which some of the interviewees and the documentation highlighted as projects to be considered part of the skills planning mechanism.

4.2.7.1 How post school education and training institutions can work together with firms?

The information for this section is derived:

- Glenda Kruss, Il-ham Petersen, Simon McGrath and Michael Gastrow (2014), Responding to shifting demand for skills: How do we get firms and post-school education and training organisations to work together
- Malerba F (2005) Sectoral systems of innovation: a framework for linking innovation to the knowledge base, structure and dynamics of sectors. Economics of Innovation and New Technology 14(1–2): 63–82

This research report is part of the HSRC LMIP. This report studies the interactive capabilities and networks that provide complementary labour market intelligence. The report looks at the 3 industry sector related case studies that were referred to earlier in Wilson et al's (2004) second category of sector studies) and provides a generic framework for the kind of interactive capabilities needed by post school education and training institutions and how that would work with firms to provide the right kind of skills supply for skills demand. The assumption in this project is that post school education and training institutions may lack the expertise and mechanism to connect them to industry and firm partners. This report uses an innovations systems approach and the general framework is drawn from the sector case studies. An innovation systems approach provides explanations of economic growth and development whose growth is focused on alignment between knowledge, skills and capabilities for learning from firms and education and training institutions that have capabilities for knowledge, technology and innovation. In the analysis of these case studies three observations are made in the report. Firstly, private sectoral intermediaries play a core role in sector specific skill development, more specifically in skills required in a specific sector and skills upgrading. Secondly, public higher education institutions and Technical Vocational Education and Training colleges have existing mechanisms to promote employability: placing students with firms as interns. Thirdly, the report highlights the critical role played by individuals who have tacit knowledge and the need for these people to build strategic relationships to enable post school education and training institutions and firms to work together.

Figure 4 below visually capture the generic framework with the dynamic interactive capabilities of sensing, learning, integrating and coordinating that are needed by education institutions in order to respond to the changing needs of firms and context around them. This framework attempts to take into consideration the interaction in a sector between skills demand and supply, and the various mechanisms used to meet the demand of skills and the sector related policies.

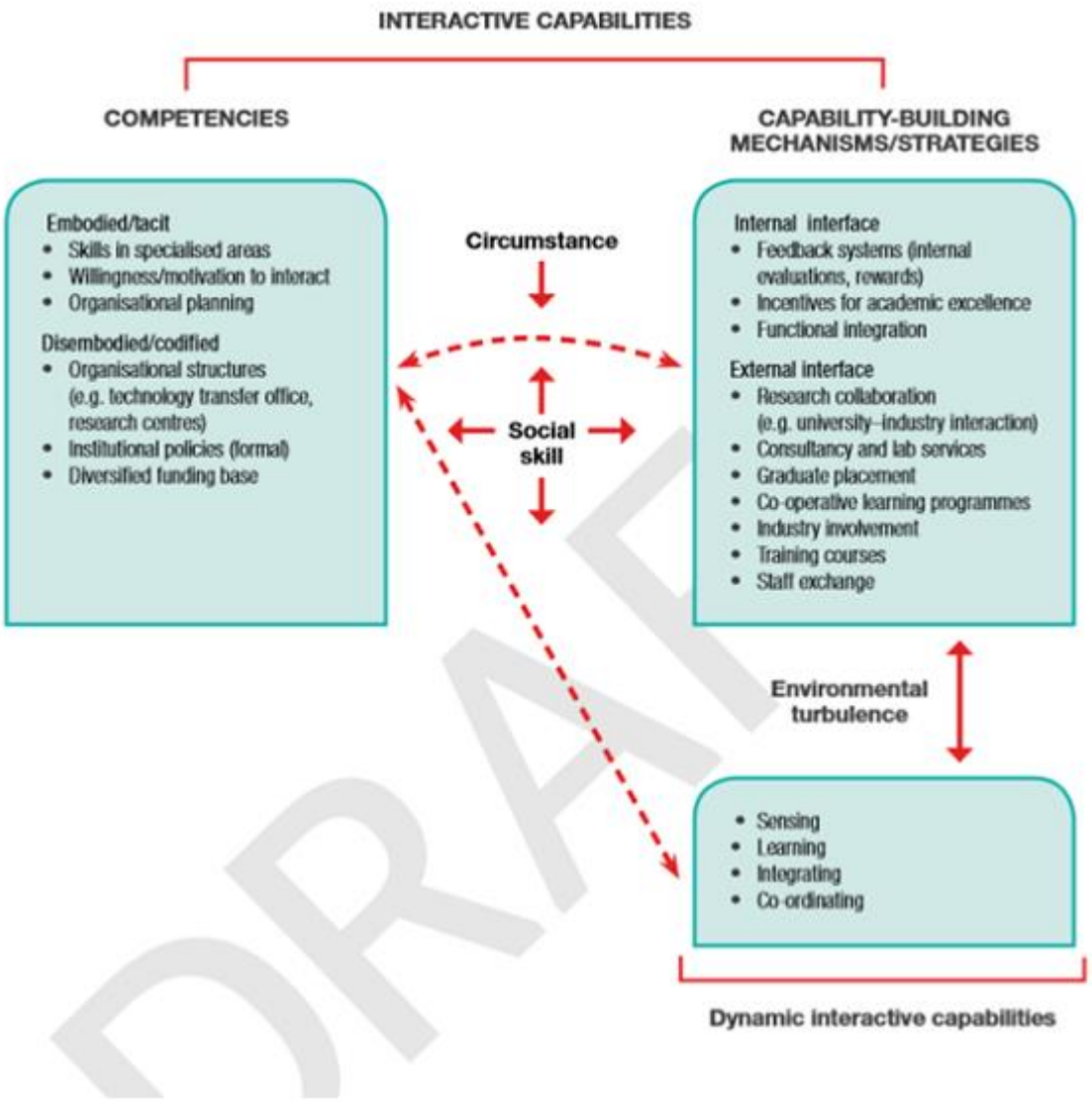


Figure 4 Capability building processes in post school education and training organizations- a generic framework
(Source: LMIP Report 4, HSRC p.19.)

4.2.7.2 SIPs

The information for this section is derived from:

- Interview 4

SIPs are a presidential initiative which focuses on infrastructure projects that need specific skills. There are 18 SIPS which form part of the infrastructure side of Industrial Policy Action Plan and the New Growth Plan, through which the government is investing in new infrastructure for the country.

Each project needed a skills plan to ensure that there were enough skills to roll out these infrastructure projects. The projects are intended to be training sites: people can go and work and at the same time gain skills. Part of SIPs was determining what projects needed in terms of skills at every stage of development; these projects were clustered into sectors and with the relevant departments working out the different stages of planning and construction of these projects.

SIPs place an emphasis on categories of occupations takes the position that occupations are the language of the labour market. The occupational language is intended to enable individuals to have labour market mobility as they can identify with a category of occupations and have a pathway of progression in their career that is recognized. Each occupation, with regards to training, is defined in two parts. The first part is the theory component. The second part is the practical which is an assessment in competence in the profession requirements and falls under a professional designate[12].

The information from these skills plans are given to colleges. Therefore each planning cycle in each skills plan has enrolment plans. The SETAs have been allocated 800 million according to the sectors the projects are based in.

The SIPs suggest a different model for developing and training for occupations. It proposes a new type of body called occupational task teams that will identify, document, and initiate the development of occupations as demanded by the economy or government initiatives. The occupational teams would specifically be responsible for qualification development and implementation for occupations in fields. The SIPs provide a model for a development of an occupation, it a seven step approach to skills planning which includes understanding occupations in demand, curriculum development, engaging with SETAs and monitoring and evaluation of this process.

[12] Professional designate is a professional or trade certification which is an assurance that the person is qualified to perform a certain task or job

4.2.7.3 EU Planning Project

The information in this section is derived from:

- Interview 1 and Interview 7

This is a project under the DHET that influences the skills planning mechanism. The EU planning project is focused around reviewing how countries in the EU have planned and implemented skills planning and how South Africa can learn from their skills planning processes. There are workshops, seminars, and engagement on particular issues related to skills development with senior officials and the Director of Education and Culture in the EU. The project looks at the internal best practice around skills planning and has included a Technical Vocational Education and Training conference.

This project looks at how skills planning envisioned and actioned in other countries, specifically EU countries. The project has three phases. The first phase conducted a review of how skills planning mechanisms function in other countries and presents key elements of skills planning as recommendations. The second phase is the international country visits by key DHET officials and dialogues to make sense of the skills planning mechanism in each country. The third phase puts forward recommendations on what was learnt in the first two phases to inform skills planning in South Africa and learn from the success and failures of other countries.

4.2.7.4 100 Occupations in High Demand

The information for this section is derived from:

- 100 occupations in high demand. Department of Higher Education and Training, 2014

This is an ongoing initiative by DHET and the Department of Home Affairs that was gazetted in 2014. The purpose of this list is to identify occupations in high demand on a national level. It is used in planning and development of skills. The list is reviewed yearly and updated. In this list's definition, an occupation is a set of jobs with similar tasks and duties. These occupations are in high demand because it is needed or vital to the socio- economic growth and development of a sector. The list will support various decision-making processes in skills development in South Africa.

Figure 5 below shows the scorecard for choosing occupations in high demand; the scores are determined by the existence of occupation on various lists that speak to skills demand in South African context and the number of times it occur on the list.

NO	ALLOCATION OF POINTS		MAXIMUM SCORE
1	**SETA Scarce Skills List (2013):** 1 point is allocated to an occupation if it is identified in a specific SETA Scarce Skills List (21 SETAs).		10
2	**Pivotal Skills List (2013):** 2 points are allocated to an occupation if it is identified in a specific SETA Scarce Skills List (21 SETAs). The breakdown is as follows:		20
	Identified 5 times by SETAs	20	
	Identified 4 times by SETAs	16	
	Identified 3 times by SETAs	12	
	Identified 2 times by SETAs	8	
	Identified 1 time by a SETA	4	
3	**JIPSA:** 10 points each are allocated to an occupation if it is identified in JIPSA.		10
4	**NDP:** 5 points are allocated to an occupation if it is identified in the NDP.		5
5	**IPAP2:** 5 points are allocated to an occupation if it is identified in IPAP2.		5
6	**Job Opportunities and Employment Report:** Points are allocated to an occupation if it is identified in the index. The breakdown is as follows:		10
	+1000 vacancies	10	
	900-999 vacancies	9	
	800-899 vacancies	8	
	700-799 vacancies	7	
	600-699 vacancies	6	
	500-599 vacancies	5	
	400-499 vacancies	4	
	300-399 vacancies	3	
	200-299 vacancies	2	
	100-199 vacancies	1	
7	**Profession:** 20 points are allocated to a profession if it is identified as scarce.		20
8	**SIPs:** 10 points are allocated to an occupation if it is identified as scarce in the SIPs List.		10
9	**Study Duration:** 10 points are allocated if an occupation requires a minimum of 3 years of formal study.		10
	TOTAL		100

Figure 5 The scorecard used to choose occupations in high demand
(Source: 100 occupations in high demand, DHET, p.15)

The process for the list of occupations in high demand involves 6 steps which includes agreeing on the data to be referenced in compiling the list, establishing an advisory committee, research for drafting a list and verifying the list with employer organisations(Department of Higher Education and Training, 2014, p. 6).

4.3 Summary of findings

In this chapter, I presented the findings from the interviews conducted and documents analysed in two parts. The first section looked at different groups of people in the emerging skills planning mechanism and how in their view skills planning should occur. The second part of this chapter reviewed the emerging projects under the skills planning and ordered them into categories.

In the first section, what became clear is that there are several different methods for skills planning being attempted at the same time. On the one hand there are employer surveys, interdepartmental and stakeholder meetings to understand what the labour market is signalling in terms of skills demands and within this an attempt at structuring the development of supply to meet skills demand. On the other hand, there is the development state approach which has always been popular in South Africa, where the state intervenes through industrial and infrastructural initiatives and education to provide employment and training. The attempt by the state to have a development state approach seems high on the agenda with DHET in its intentions for the skill planning. Yet in practice, the state is following a more market led approach to skills planning.

This paragraph will present the broad overview of the projects in terms of Wilson et al's (2004) four categories and the three categories that I developed. In terms of Wilson et al's (categories), there was one project that was an econometric model that intended on predicting skills demand and supply, three case studies that were in depth studies of skills formation systems in industries and specific sectoral system, one project involving the changing of the firm survey; and lastly, there were no specific projects under round tables and focus groups as the skills planning involved several round tables with stakeholders to discuss the projects under skills planning in DHET. In the three categories I developed, five projects and research are intended to assist in providing accurate data for skills planning, five research pieces are intended to provide a clearer picture and understanding of the context in South Africa under which skills planning occurs; and in the last category, there are projects which influence skills planning , one that provides a generic framework for how universities should interact with firms in skills development, two of which provide processes for skills planning and one that is to provide recommendations from an international perspective for skills planning.

There seem many solutions being presented to solve skills planning in South Africa, from an econometric model that gives accurate predictions, to creating more bodies to lead to skills

strategising, to following a development state approach with interventions in education, and a market driven approach where the market and numerous individual decisions create the demand for skills.

From the findings, I arrived at the conclusion that most of the projects in the emerging skills planning mechanism are concerned with ensuring the right data is made available for skills planning and that the context under which skills planning occurs in South Africa is understood. It is also coming through as a strong theme that the decision making in various stakeholders drives the selection and strategising of certain skills for development. However, what has not come through is a clear understanding of how all these projects and research will work together and to form a mechanism for skills planning.

Chapter Five: Analysis and Conclusion

In this complex skills development environment, DHET in partnership with research organizations has introduced a series of projects to developing a central form of skills planning. The views of DHET, projects, research and the dti were covered in the last chapter together with an overview and explanations of the projects.

This chapter will present some analysis of my findings. I will then conclude with some final thoughts on the emerging skills planning mechanism. The question this study is trying to answer what DHET thinks a central skills planning mechanism should do. The short answer in the findings seems to be the through planning skills for the economy. There were several projects discussed. The analysis focuses on looking further into observations from the findings of how the skills planning mechanism is emerging.

5.1 Analysis

There are four points of analysis that I will pull out to highlight some of the ways in which the skills planning mechanism is emerging.

5.1.1 Multiple approaches to skills formation system

Throughout the research report, I have highlighted the several approaches the state could allow or take in order to develop a skills formation system. I presented the two extremes of market-led or state-led (centrally planned) approaches to economic and education systems, where either the market needs lead the supply and demand of skills, or where the state intervenes in the creation of industries and development of skills for these industries. However, my initial extremes that I developed did not cover the multitude of complex arrangements in skills formation systems. Keating (2008) highlighted this in his five approaches, where he showed how a multitude of mechanisms and strategies could be arranged to make up a skills formation system; what needs to be noted is that each system was formed for its own skills needs and worked in strategies that were unique.

Skills planning in South Africa seems to have embraced a variety of overarching approaches. One of the approaches that recently became popular in South Africa is the development state, where the state intervenes in the development of skills in both industry and education to ensure the provision of the right kind of skills. There is consensus in DHET and LMIP that government plans for economic growth and industrial development such as Department of Trade and Industry's Industrial Policy Action Plan, the Strategic Infrastructural Projects, the National Growth Plan, and the National Development Plan need to be included in the understanding of skills development. These plans can be perceived as South Africa's 'development state' plans. However, my findings suggest that the information gathered for skills planning currently follows a more market-led approach, where skills planning in terms of information is slightly more influenced by reading labour market signals in employer demands than government plans. As discussed in the literature review, South Africa has a weak industrial structure and neoliberal economic policy has been influential, which could be seen as preventing the state from intervening in the supply and demand of skills. Thus, the demand for skills is controlled by the market and employer demands, which can be unclear at times. It is difficult to envisage exactly how these government plans are to be integrated in skills planning further than using the targets set for skills development from these plans. As a result, it is unclear how a development state approach would be implemented in skills planning. Therefore, it is difficult for LMIP or DHET to implement a more developmental approach in the skills planning mechanism as the power for this kind of control of supply and demand for skills and the development thereof, does not exist within their realms. The LMIP explains that a skill planning mechanism needs to include an understanding the skills needs of the economy which do include market needs and government plan. However, a development state is more likely to intervene decisively to create industries and strategically align the skills development with them. Therefore, it is difficult to formulate which approach will successfully be used in skills planning in South Africa with so many different approaches in different projects such as the LMIP, 100 occupations in high demand, SIPs and IPAP being jointly considered in the development of a skills planning mechanism. The practical answer is suggested as both, but how they will all work together and complement each other is not clear.

Further, there needs to be more discussion and analysis of what is possible in skills planning given the current economic policy, industrial context and education conditions in South Africa. What is supported in the literature is a dynamic interaction between a state controlled economic and industrial policy that creates jobs which the population is trained for by the education system which can possibly alleviate unemployment. Therefore, it is not just skills development but also

job in these areas of skills development that can address unemployment and potentially, alleviate poverty. These economic, industrial policy and education conditions do not exist in South Africa, which leads us to conclude that skills planning could be quite limited in this context, where the market is driving the skills development strategy and it is very difficult to control demand for labor and align supply of skill in this context. The reason why it is difficult to align skills supply in the context of a market driven economy is that the demand and supply of skill are, as discussed in the literature review, driven by a multitude of individual decisions at the firm and labour level.

5.1.2 The problem with planning for short-, medium-, and long-term skills

It has been an ongoing concern in the progression of this study: how sustainable skills development is in different contexts of economic system. An LMIP paper that discussed approaches and methods to understanding occupations in high demand[13], there was a review of the different countries approaches to skills planning and what they were used for. It seemed that most of the examples focused on bringing migrant labour into the country to fill scarce skills positions through the issuing of work visas. The LMIP paper highlights two different understanding of skills planning; one is that skills planning can mostly be used for short-term skills needs and that skills planning can address certain problem in an environment and not others.

Given the discussion in the Chapter 2 in the section on How possible is skills planning?, the issue of the difficulty of skills planning in a market-led economy was raised. There needs to be more realistic expectations of skills planning in a market-led economy in terms of short, medium and long term skills needs. In the immediate and short term, skills demand can be more accurately determined. However, skills demand becomes more indicative in the medium term and more a rough idea in the long term. Therefore, skills planning can give an idea of where the economy is going; and in the case of econometric modeling, it can take into account what has been going on in the economy and provide some direction in skills development strategies if the economy was to remain as it is or a new scenario was to be created.

In short, the difficulty lies in medium- and long-term skills planning; immediate skills planning seems easiest in a market-led economy. The key idea here is that it is that it is unlikely that clear

[13]Marcus Powell, Vijay Reddy and Andrew Patterson (2014), Approaches and methods for understanding what occupations are in high demand and recommendations for moving forward in South Africa

data, contextual information, an econometric model, and stakeholder contributions will provide the roadmap to the means to medium- and long-term skills planning that could potentially alleviate some aspects of unemployment and poverty. It seems more likely that government interventions in education and the economy over a period of time can provide a successful medium to long-term skills development strategy for the economy in skills planning. This also means that short-term skills planning is much easier as a starting point in skills planning in the South African environment.

5.1.3 Working with the current skills formation system in South Africa

As discussed in the Chapter 1 and 2, there is currently a skill formation system in South Africa with stakeholder bodies and institutions. Within this skill formation system there are also many instruments trying to assist in skills plans. The most widely known instruments are Workplace Skills Plan and Sector Skills Plan which are essential in gaining information from employer organisations to provide a picture of the current skills needs and training plans in an industry and sector.

The current skills formation system as a whole does not seem to have been directly addressed in the various projects under DHET related to skills planning. There are some targeted suggestions about incentives and changing Workplace Skills Plan. There are also suggestions to change surveys under StatsSA to provide clearer information on the labour market. What is widely available is from different sources has been what went wrong with the skills formation system and recommendations on how this can be fixed. My expectation of the various projects was that they would deal directly with these recommendations and provide ways to implement some of them. The argument within the suggested models emerging from the skills planning mechanism is that a new set of bodies and processes need to be established. This seems worrying, as many of the proposed processes are already occurring. While they might be not be effective, it seems that it would be better to seek clarity on where exactly the problems are and target solutions to fix the current systems and processes, rather than creating new systems and processes.

5.1.4 What is a skills planning mechanism?

My study started with trying to answer this question: what is a skills planning mechanism? I tried to answer this question from two perspectives. One perspective is the overarching expectations and conceptualisation of what skills planning in a context was covered in the section. Multiple approaches to skills formation system; and the second perspective is what is proposed through

the projects emerging under the skills planning mechanism, including how they understood and implemented skills planning. The second perspective will discussed in this section.

Seen together, I had to consider to what extent the projects and research seem to cohere, and to what extent there seems to be an actual emerging skills planning mechanism. One project is an econometric model that provides insight into skills demand and supply. One project aims to improve the way SETAs get data from workplaces. Three case studies looked in-depth at industries' skills formation systems, providing interesting insights into how sector actors interact to enable skills development. There are five projects and research focused around collecting the right kind of data for skills planning; these projects aim to provide credible and valid data. There are five pieces of research that focus on understanding the context of historical and social influences in South Africa under which skills planning occurs. Two projects outside the emerging skills planning mechanism provide a series of steps to do skills planning. All these aspects are vital to skills planning, and the projects can be seen as using both qualitative and quantitative methods to solve skills supply and demands. If I look at the projects together from the surface, I could see the argument that the projects are all fulfilling some aspect of skills planning but it is not clear how all these projects work together to *perform* skills planning. The best metaphor to use in explaining this further is that of a recipe. There are projects and research which suggest the required ingredients for skills planning. However, the method, recipe, or instructions for how these ingredients should be combined and used in order to actually plan for skills is unclear.

Another argument that is very popular in skills planning and states often invest large amounts of funds in, is an econometric model for skills planning. In the South African context, this kind of model is apparent in the ADRS/REAL Linked Macro Education model that was discussed in the findings chapter. These models are often popular as they are intended to provide accurate predictions of skills demand and supply given the current economic conditions or another economic scenario is implemented. There is a substantial amount of people that believe this kind of model is skills planning at discussed in the literature review. I would argue that an econometric model gives us an idea of the potential skills needs given the current or new economic scenario. However, it is very precise predictions cannot be taken as is, due to the nature of other factors that influence the economies that the model has no control of such as social inequality and oil prices.

One of the core ideas for skills planning in the South African context is that skills planning occurs in stakeholder bodies and when these bodies come together with various government departments. Earlier in Figure 1, I presented the intended model for skills planning by the LMIP,

it showed the pathway of decisions that would be made by various bodies in skills planning with regard to skills needs and supply. Skills planning in this context is envisioned as the skills needs information flowing from one body to body, these bodies would be state planning bodies, stakeholder organizations or employer organizations, with the purpose of each body evaluating the validity of the information, with the goal of providing a list of the skills needed. This process and information is intended to be managed by Central Skills Planning Unit who will ultimately analyse and produce short-term, medium- and long-term skills demand lists. Therefore, it could be assumed that it is the role of this unit to find a method for recipe for the ingredients of skills planning and ensure that the mechanism for skills planning is implemented. However, this does not seem to leave DHET much closer to enabling skills planning that provides insight and strategies for structuring and implementing supply of skills. As in Figure 1, all this skills planning occurs once the Central Skills Planning Unit has been established, which at the time of this study was not established.

5.2 Conclusion

The main research question is trying to understand what DHET things a central skills planning mechanism should do. DHET, in envisioning the skills planning mechanism, did not seem to be clear enough about what was possible and what were not possible in skills planning. The HSRC, in relationship with the DHET, has proposed new structure and a set of relationships together with a conceptual understanding that makes up skills planning that is difficult to understand how to implement. However, there seems to be insufficient analysis of current structures that are not working that are needed in skills planning such as the Workplace Skills Plan and Sector Skills Plan, and how these should be improved. There are also many processes and structures within the proposed skills planning projects that replicate each other, examples of this are the many projects trying to identify and create datasets for the credible and valid data for skills planning. There are also currently several interdepartmental meetings and the dti meetings with the stakeholders. These meetings have not been analysed for their contribution to the emerging skills planning mechanism and how these meetings should function to add value to the skills planning. What has occurred is the creation of a new model that puts additional pressure on the DHET to interact in a process they may already be involved, but not involved in effectively. In the process of my research, I found it incredibly difficult to find a congruent story for skills planning that wasn't embedded in complexity. Therefore, I would conclude that the emerging skills planning mechanism consists of the potential ingredients for skills planning but the recipe for the final product or skills planning mechanism is not clear at the time of this research.

Appendix 1: Interview protocol and schedule for Department of Higher Education and Training staff involved in the Skill Planning System

The following questions were used as a guide to the interviewer. Probes that will be used are limited to seeking clarity and following up on participant responses.

- What does the Department of Higher Education and Training think a central skills forecasting mechanism should do? This will be followed up with two sub-questions:
- How does the DHET understand skills forecasting?
- How does the DHET think such a mechanism would work?
- What is the DHET doing to establish such a mechanism?
- How far is the process of establishing such a mechanism?

Given that the DHET has stated (in the White Paper) that it is building on a set of projects, a key focus of the research will understand these sub-projects, and in this regard, a set of sub-questions is proposed:

- What projects are already underway under the DHET for predicting skills?
- How does each project contribute to the skills planning mechanism?

Appendix 2: Interview protocol and schedule for key role players in the projects which are viewed to be contributing to the process of establishing a skills planning mechanism

The following questions were used as a guide to the interviewer. Probes that will be used are limited to seeking clarity and following up on participant responses.

- How does your project contribute to the skills planning mechanism
- What is the underlying philosophy of the project? / What do you understand as predicting skills?
- What are the specific sectors of the project investigating?
- What are the key inputs of the project?
- Where is the source of your data?
- What methodology is the project is using?
- What are the key outputs of the project?
- What will the structure of the output of the information be?
- In the view of the project, what are the key factors and environmental conditions that can affect skills planning?

Appendix 3: List of Primary Sources

Reports

LMIP Report 1: Haroon Bhorat, Sumayya Gogo and Benjamin Stanwix (2014), Occupational Shifts and Shortages: Skills Challenges Facing the South African Economy

LMIP Report 2: Nhlanhla Bathe, Angelique Wildschut, Bongiwe Mncwango, Xolani Ngazimbi and Tembinkosi Twalo (2014), Towards Understanding the Distinctive Nature of Artisan Training: Implications for skills planning in South Africa

LMIP Report 3: Haroon Bhorat and Nan Tian (2014), Growth, Employment and Skills: The New Growth Path Revisited

LMIP Report 4; Glenda Kruss, Il-ham Petersen, Simon McGrath and Michael Gastrow (2014), Responding to shifting demand for skills: How do we get firms and post-school education and training organizations to work together

LMIP Report 5; Haroon Bhorat, Aalia Cassim and David Tseng (2014), Higher Education, Employment and Economic Growth: Exploring the Interactions

Policy Briefs

LMIP Policy Brief 1; Marcus Powell and Vijay Reddy (2014), Labour Market Intelligence Systems and Mechanism for Skills Planning: Lesson and Recommendations for South Africa

LMIP Policy Brief 2; Marcus Powell, Vijay Reddy and Andrew Patterson (2014), Approaches and methods for understanding what occupations are in high demand and recommendations for moving forward in South Africa

LMIP Policy Brief 3; Haroon Bhorat, Aalia Cassim and Morne Oosthuizen (2014), Occupational Shifts and Shortages: Facing the South African Economy

LMIP Policy Brief 4; Marcus Powell, Vijay Reddy and Andrew Patterson (2014), Indicators and Data to Support Skills Planning in South Arica

Working Papers

Angelique Wildschut and Xolani Ngazimb. (2012) Understanding Changing Artisanal Occupational Milieus and Identities Conceptualising the Study of Artisans. LMIP Working paper 29.

Fabian Arends and Michael Cosser. (2012) Data Considerations for Education and Labour Market Indicators. LMIP Working Paper 6. .

Andrew Kerr (2013) Understanding Labour Demand in South Africa and the Importance of Data Sources. LMIP Working Paper 5.

Margaret Chitiga-Mabugu and Stewart Ngandu. (2012). Development of a National Skills Forecasting Model. Working Paper 14.

Bongiwe Mncwango (2013). Skills, Competencies and Capabilities in the Innovation System Reconfiguring the Post-School Sector. LMIP Working Paper 4.

Glenda Kruss and Il-haam Petersen. (2014). Understanding interactive capabilities for skills development in sectoral systems of innovation A tentative framework. LMIP Working Paper 2.

Ministerial Briefings

Briefing to the Minister of the Department of Higher Education and Training 9 October 2014. The Context: Evidence-Based Labour Market Policy.

Update Documents

LMIP Policy Suggestions May – October 2014. LMIP HSRC

LMIP Update 2012–2013, LMIP HSRC

LMIP Update 2014. LMIP HSRC.

Project Documents

DHET Skills Planning Tool, Achieving Evidence-Based Skills Planning with LM –EM, REAL Centre 2015

Presentations

Singizi Consulting, (2014) Demand Side Planning Considerations on the Skills Planning Mechanism. LMIP Policy Round Table II: The Emerging Contours of a Credible Institutional Skills Planning Mechanism for South Africa: Towards a Common Perspective

Hoosen Rasool, (2014) What is (and is not) a Skills Planning Mechanism for South Africa? LMIP Policy Round Table II: The Emerging Contours of a Credible Institutional Skills Planning Mechanism for South Africa: Towards a Common Perspective

Appendix 4: Interview protocol and schedule for people with a particular interest in the skills planning mechanism

The following questions were used as a guide to the interviewer. Probes that will be used are limited to seeking clarity and following up on participant responses.

- How does your role/department relate the central skills planning mechanism? /What is your interest in this mechanism?
- What do you expect a mechanism does?
- What kind of information do you expect that this mechanism will provide?
- How will you use the information that the mechanism will provide in your strategies and planning?
- What kind of other information does your strategies and planning require?

Appendix 5: Interviews

Interview 1

- Deputy Director General: Planning and Monitoring, DHET

Interview 2

- Director: Research Coordination, Monitoring and Evaluation, DHET

Interview 3

- Director of SETAs and Learnerships, DHET

Interview 4

- Deputy Director General for Special Projects, DHET

Interview 5

- REAL Project Manager, ADRS/REAL Linked Macro-Education Model

Interview 6

- Economist, ADRS/REAL Linked Macro-Education Model

Interview 7

- Member, Skill Planning Mechanism

Interview 8

- Chief Director of the Skills for the Economy, the dti

Interview 9

- Deputy Director of the Skills for the Economy, the dti

References

Adelzadeh, A. (1996). From the RDP to GEAR: The gradual embracing of neoliberalism in economic policy. *Transformation*, *31*, 66–95.

Allais, S. (2013). Understanding the persistence of low skills in South Africa. In *New South African Review 3*. Wits University Press.

Allais, S., & Nathan, O. (2014). Skills? What Skills? Jobs? What Jobs? An overview of research into education/labour market relationship. *Education, Economy and Society*.

Ashton, D., Green, F., Sung, J., & James, D. (2002). The evolution of education and training strategies in Singapore, Taiwan and S. Korea: a development model of skill formation. *Journal of Education and Work*, *15*(1).

Cappelli, P. H. (2015). Skills gaps, skills shortages and skills mismatches : evidence and arguments for the United States. *ILR Review*, *68*(2), 251–290.

Chang, H.-J. (2003). The market, the state, and the institutions in economic development. In *Rethinking development economics*. London: Anthem Press.

Department of Education. (1997). Education White Paper 3: A programme for the transformation of higher education. Department of Education.

Department of Higher Education and Training. (2013a). Guidelines: Organising Framework for Occupations (OFO) 2013. Department of Higher Education and Training.

Department of Higher Education and Training. (2013b). White paper for post-school training and education. Department of Higher Education and Training.

Department of Higher Education and Training. (2013c, August 16). Ministerial Task Team on SETA Performance Report for the Minister of Higher Education and Training, HON. B Nzimande (MP). Pretoria Government Press.

Department of Trade and Industry. (2011). Industrial Policy Action Plan 2011/2012- 2013/2014 Economic Sectors and Employment Cluster.

Green, F., Machin, S., & Wilkinson, D. (1998). The meaning and determinants of skills shortages. *Oxford Bulletin of Economics and Statistics*, *60*(2), 165–187.

Human Resource Development Council. (2015). *Human Resource Development Council*.

Keating, J. (2008). Matching supply of and demand for skills: International perspectives. National Centre for Vocational Education Research, Australian Government.

Klees, S. J. (1986). Planning and Policy Analysis in Education: What can Economic tell us? *Comparative Education Review*, *30*(4), 674–607.

Levine, M. (2013). The Skills Gap and Unemployment in Wisconsin. Separating Fact From Fiction. Milwaukee: Centre for Economic Development, University of Wisconsin-Milwaukee.

Marock, C., Yeowart, S., & Singizi, A. G. (2012). Alignment of Sector Skills Planning to NGP.

McMillan, J., & Schumacher, S. (2014). *Research in Education Evidence-Based Inquiry*. Essex, England: Pearson Education Limited.

Mohamed, S. (2010). The state of the South African economy. In *New South African Review* (1st ed.). Wits University Press.

Ocampo, J. A. (2004). Latin America's growth and equity frustrations during structural reforms. *Journal of Economic Perspectives*, *18*(2), 67–88.

Palma, G. (2003). Latin America during thesecond half of the 20th Century: From The "Age Of Extremes" To The Age Of "End-Of-History" Uniformity. In H.-J. Chang (Ed.), *Rethinking development economics*. Anthem Press.

Park, S.-Y. (2013). The political and institutional basis of Korea's skills formation system. *Journal of Education and Work*, *26*(3), 291–308.

Richardson, S. (2007). What is a Skills Shortage? Australian National Centre for Vocational Education.

Shah, C., & Burke, G. (2003, November). Skills shortages: concepts, measurements and implications. Centre for economics of education and training, Monash University -Acer.

Statistics South Africa. (2014). Quaterly Labour Force Survey.

Weeks, J. (1999). Stuck in low Gear? Macroeconomic policy in South Africa, 1996-97. *Cambridge Jornal of Economics*, *23*, 795–811.

Wilson, R., Woolard, I., & Lee, D. (2004). Developing a National Skills Forecasting Tool for South Africa. Institute of Empoyment Research and Human Sciences Research Council.